

# **Operational Art in a Middle-Power Context: A Canadian Perspective**

**A Monograph  
by  
LCol Richard N.H. Dickson  
Canadian Military Engineers**



**School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas**

**AY 03-04**

| Report Documentation Page   |                                    |                                     |  | Form Approved<br>OMB No. 0704-0188                          |                                 |
|---|------------------------------------|-------------------------------------|--|---|---------------------------------|
| Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.  |                                    |                                     |  |   |                                 |
| 1. REPORT DATE<br><b>26 MAY 2004</b>  |                                    | 2. REPORT TYPE                      |  | 3. DATES COVERED<br>-                                       |                                 |
| 4. TITLE AND SUBTITLE<br><b>Operational art in a middle-power context: a Canadian perspective.</b>  |                                    |                                     |  | 5a. CONTRACT NUMBER   |                                 |
|   |                                    |                                     |  | 5b. GRANT NUMBER  |                                 |
|   |                                    |                                     |  | 5c. PROGRAM ELEMENT NUMBER                                  |                                 |
| 6. AUTHOR(S)<br><b>Richard Dickson</b>  |                                    |                                     |  | 5d. PROJECT NUMBER  |                                 |
|   |                                    |                                     |  | 5e. TASK NUMBER   |                                 |
|   |                                    |                                     |  | 5f. WORK UNIT NUMBER  |                                 |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><b>US Army School for Advanced Military Studies, 250 Gibbon Ave, Fort Leavenworth, KS, 66027</b>  |                                    |                                     |  | 8. PERFORMING ORGANIZATION REPORT NUMBER<br><b>ARZL-SWV</b> |                                 |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)   |                                    |                                     |  | 10. SPONSOR/MONITOR'S ACRONYM(S)                            |                                 |
|   |                                    |                                     |  | 11. SPONSOR/MONITOR'S REPORT NUMBER(S)                      |                                 |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT<br><b>Approved for public release; distribution unlimited</b>   |                                    |                                     |  |   |                                 |
| 13. SUPPLEMENTARY NOTES   |                                    |                                     |  |   |                                 |
| 14. ABSTRACT<br><b>This monograph considers whether operational art and the operational level of conflict are viable constructs for Canada or other middle-powers. Like most of America's close allies, Canada quickly followed the US lead by adopting these operational concepts into its service and joint doctrine. However, these concepts are framed in a great-power context of large-force, large-theater, high-intensity operations that is of questionable relevance to middle-powers, and their small, tactically focused militaries. This study first examines operational doctrine and theory in order to distill operational art into terms applicable across the spectrum of conflict and scale of operations. It then explores Canadian strategic imperatives and the Canadian Army's historical experience, to determine if and how the operational art and level have been practiced in the past, and whether they are feasible, acceptable and suitable constructs for the Canadian military today. This monograph shows that in today's complex operating environment, Canada is coming under increasing pressure to take more prominent roles in coalition operations. To meet this challenge, and to ensure Canada retains the ability to exert strategic influence, the Canadian Forces need to refocus on fielding salient, self-contained forces that can think operationally and function at the operational level.</b> |                                    |                                     |  |   |                                 |
| 15. SUBJECT TERMS   |                                    |                                     |  |   |                                 |
| 16. SECURITY CLASSIFICATION OF:   |                                    |                                     | 17. LIMITATION OF ABSTRACT<br><b>1</b> | 18. NUMBER OF PAGES<br><b>65</b>                            | 19a. NAME OF RESPONSIBLE PERSON |
| a. REPORT<br><b>unclassified</b>  | b. ABSTRACT<br><b>unclassified</b> | c. THIS PAGE<br><b>unclassified</b> |  |   |                                 |

# **SCHOOL OF ADVANCED MILITARY STUDIES**

## **MONOGRAPH APPROVAL**

Lieutenant-Colonel Richard N.H. Dickson

Title of Monograph: Operational Art in a Middle Power Context:  
A Canadian Perspective

Approved by:

---

James J. Schneider, Ph.D.

Monograph Director

---

Kevin C.M. Benson, COL, AR

Director,  
School of Advanced  
Military Studies

---

Robert F. Baumann, Ph.D.

Director,  
Graduate Degree  
Programs

## **Abstract**

**OPERATIONAL ART IN A MIDDLE-POWER CONTEXT: A CANADIAN PERSPECTIVE** by LCol Richard N.H. Dickson, Canadian Military Engineers, 61 pages.

When the United States (US) Army introduced the operational level of war and the concept of operational art into its doctrine during the 1980s, most US allies quickly adopted these US-inspired operational concepts into their service and joint doctrines. However, these concepts are framed in the great-power context of large-force, large-theater, high-intensity operations. Middle-powers such as Canada and Australia have small military forces that operate almost exclusively within the context of a coalition or alliance framework, and remain focused largely on tactics and tactical level issues, thereby casting doubt on their ability to function at the operational level and need to practice operational art.

This monograph answers the research question: are the operational level and operational art viable constructs for Canada or other middle-powers, and if so, what form should they take? In other words, is an operational framework (thought, concepts, and doctrine) useful, necessary, or even possible in a middle power context? This study first examines operational doctrine and theory to determine whether operational art can be distilled into terms that are applicable to the Canadian middle-power context. It then explores Canadian strategic imperatives and the Canadian Army's historical experience to determine if and how the operational art and level have been practiced in the past, and ultimately whether they are feasible, acceptable and suitable constructs for the Canadian military today.

This monograph concludes that the application of an operational construct to a middle-power like Canada is both feasible and suitable, although political and institutional resistance to change poses a challenge to its acceptability. However, in today's complex operating environment, the Canadian military is coming under increasing pressure to take more prominent roles in coalition operations. To meet this challenge, and to ensure Canada retains the ability to exert strategic influence, the Canadian Forces need to refocus on fielding salient, self-contained forces that can think operationally and function at the operational level.

## TABLE OF CONTENTS

|  |    |
|--|----|
| I. INTRODUCTION .....  | 1  |
| Operational Art in a Middle Power Context.....               | 3  |
| Scope and Limitations .....                                  | 3  |
| II. DISTILLING OPERATIONAL ART .....                         | 4  |
| Operational Doctrine .....                                   | 5  |
| By the Book.....   | 5  |
| Levels of Confusion .....                                    | 9  |
| A Canadian Interpretation .....                              | 12 |
| Operational Theory.....                                      | 14 |
| The Origins of Operational Art .....                         | 14 |
| Soviet Operational Theory – Deep Successive Operations ..... | 18 |
| Operational Art and Systems Theory .....                     | 21 |
| The Essence of Operational Art.....                          | 26 |
| Operational Art Out of Context.....                          | 31 |
| III. THE CANADIAN EXPERIENCE.....                            | 34 |
| Strategic Context – Life as a Middle-Power .....             | 34 |
| Military Context – Life as a Junior Partner .....            | 36 |
| Historical Context – The Canadian Experience of War .....    | 38 |
| The Canadian Corps in The Great War .....                    | 39 |
| The First Canadian Army in Northwest Europe.....             | 42 |
| Contemporary Context – Cold War to the Present .....         | 45 |
| A return to Saliency.....                                    | 45 |
| Challenging the Junior-Partner Paradigm .....                | 46 |
| A Joint Operational Capability .....                         | 48 |
| IV. CONCLUSIONS .....  | 50 |
| BIBLIOGRAPHY .....   | 54 |

*Unless the Canadian Forces abandon any pretense of national sovereignty and distinct military autonomy, and are content simply to be absorbed as a few brigades, squadrons, and vessels into grand coalitions, a serious search for first principles is overdue.<sup>1</sup>*

## I. INTRODUCTION

The United States (US) Army introduced the operational level of war and the concept of operational art into its doctrine during the 1980s, largely to address a perceived disconnect between tactical action and strategic goals. This new operational level doctrine was intended to link strategy and tactics through a “holistic and integrated view of warfare,” and thereby serve as a framework for large unit operations.<sup>2</sup> America’s closest allies – The United Kingdom (UK), Canada, Australia, and collectively the North Atlantic Treaty Organization (NATO) – quickly followed the US lead, and by the early 1990s all were in the process of formally adopting the operational level and operational art into their joint and service doctrines. Moreover, these essentially American concepts – concepts framed in the great-power context of large forces conducting high-intensity, air-land operations across extended geographic theaters<sup>3</sup> - were grafted verbatim into allies’ doctrines, without the benefit of the intellectual debates that had taken place in the US.<sup>4</sup> However, unlike the US, Canada and other middle powers operate almost exclusively within an alliance, coalition or United Nations (UN) framework. The commitment to any mission

---

<sup>1</sup> William McAndrew, "Operational Art and the Canadian Army's Way of War," in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger, 1996), 98.

<sup>2</sup> Richard M. Swain, "Filling the Void: The Operational Art and the U.S. Army," in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger, 1996), 166. Swain asserts that the main impetus for this development was the failure of the tactically-focused 1976 version of FM 100-5 to address both the Army’s inability to translate tactical victory into strategic success in Vietnam, and the infeasibility of the NATO Forward Defense strategy.

<sup>3</sup> The American conception of operational art has been described as “a body of knowledge that is inherently about large forces, has a global perspective, and is created for accomplishing decisive combat operations.” Howard G. Coombs, "Perspectives of Operational Thought," (unpublished draft: 2004), 11.

<sup>4</sup> Unlike Canada or other smaller allies, the British Army played an active and collaborative role in the development of Operational doctrine, taking a more command-centric and decidedly manoeuvrist approach. See Richard Simpkin, *Race to the Swift: Thoughts on Twenty-First Century Warfare* (London: Brassey's Defence Publishers, 1985).

rarely exceeds an army brigade, small composite air wing, or naval task group – and often much less. These contributions are habitually integrated into the alliance, coalition or UN command structure at the lower tactical level, each within the appropriate single-service component. Unsurprisingly then, the Canadian Forces (CF), and the Army in particular, have remained largely focused on tactics and tactical level issues.<sup>5</sup> As a result, the relevance and utility of operational doctrine to middle powers such as Canada and Australia has remained open to debate, and continues to generate much discourse in professional journals and at staff colleges<sup>6</sup>.

It could be argued that middle-powers are incapable of exercising operational art, and perhaps do not require an independent operational level at all. In this case, their small, tactically focused militaries would only require an understanding of operational doctrine to the extent that permits them to integrate tactical forces into larger alliance or coalition operations, and to effectively participate in coalition headquarters (HQ) – a requirement limited to a small number of senior commanders and staff officers<sup>7</sup>. If, however, operational art is qualitatively different from strategy and tactics – a distinct function fulfilling an essential role in modern conflict – then it can be argued that middle-power militaries still require a coherent approach to operational art, irrespective of their size and tactical focus. For if the operational function is indeed unique, and not merely a practical division of labour and responsibility between levels of command, then it should be applicable, in some form or other, regardless of scale. This monograph proposes this to be the case, and will answer the research question: are the operational level and operational art

---

<sup>5</sup> Department of National Defence. Canada, *Future Force: Concepts for Future Army Capabilities* (Kingston, ON: Directorate of Land Strategic Concepts, 2003).

<sup>6</sup> For the Canadian reaction to imported operational doctrine see K.T. Eddy, "The Canadian Forces and the Operational Level of War," *Canadian Defence Quarterly* 21, no. 5 (1992): 23, McAndrew, "Operational Art and the Canadian Army's Way of War," 97. or most acerbic: Roman J. Jarymowycz, "Doctrine for Canada's Army - Seduction by Foreign Dogma: Coming to Terms with Who We Are," *Army Doctrine and Training Bulletin* 2, no. 3 (1999). For an Australian perspective see Martin Dunn, "Levels of War, Just a Set of Labels?," *Research and Analysis: Newsletter of the Directorate of Army Research and Analysis*, no. 10 (1996).

<sup>7</sup> Eddy, "Canadian Forces and the Operational Level," 22-24. The theme of having an operational level primarily for the education of senior commanders and staff and to maintain interoperability with allies is also found in Canada, *Future Force*, 172-173.

viable constructs for Canada or other middle-powers, and if so, what form should they take? In other words, is an operational framework (thought, concepts, and doctrine) useful, necessary, or even possible in a middle power context?

## **Operational Art in a Middle Power Context**

For a doctrine to be of value, it must be applicable. For operational art and the operational level to be applicable in a middle-power context, they must be feasible, acceptable, and suitable – i.e. they must pass the “FAS” test – within that context. Any operational construct must be feasible in that it is possible, and can be practicably implemented. It must be suitable in the sense that it is either necessary, or at least useful. Finally, it must be acceptable from a strategic-political and institutional standpoint, and in terms of the resources required to implement it. To answer these questions, this monograph will first review current US and Canadian operational doctrine in order to establish a common baseline of terminology, and to assess its applicability to the Canadian middle-power context. Then, by examining the origins and nature of the operational theory that underpins the doctrine, it will attempt to distill the essence of operational art in terms that apply across the spectrum of conflict and scale of operations, and are not limited in the great-power context of large-force, high-intensity, theater-wide operations in which it is currently framed. Finally, it will explore Canadian strategic imperatives and the Canadian Army’s historical experience of conflict to determine if and how the operational art and level have been manifested in the past, and ultimately whether they are feasible, acceptable and suitable constructs for the Canadian military today.

## **Scope and Limitations**

The main focus of this study is Canada and the Canadian Army. For this reason, the scope of research has been limited to a Canada and other “like” middle-powers; no attempt has been made to study the operational level in greater or weaker powers, or to assess the relevance of



the results to them.<sup>8</sup> For example, although the British Falklands War includes all the elements normally associated with a US-style campaign on a smaller scale, and from a US perspective represents the quintessential “small” operational campaign, its study would be of limited value in evaluating a middle-power context. As well, while the inherent jointness of the operational level is commonly accepted, it is beyond the scope of this study to explicitly address the requirement for a joint operations capability within Canada or other middle-powers. Finally, the scope of this monograph did not permit a consideration of the effects that emerging concepts such as Rapid Decisive Operations (RDO), Effects Based Operations (EBO), or Network Centric Warfare (NCW) might have on the continued relevance of the operational level and operational art in the contemporary operating environment.

## II. DISTILLING OPERATIONAL ART

*It is only when we have reached agreement on names and concepts that we can hope to progress with clearness and ease in the examination of the topic and be assured of finding ourselves on the same platform with our readers. - Clausewitz*

Much of the difficulty in assessing operational doctrine results from vague understandings, the undisciplined application of operational terminology, and a general association of the operational level with specific levels of command. The English language, as Edward Luttwak noted, “has no word of its own for what stands between the tactical and strategic, to describe that middle level of thought and action wherein generic methods contend and battles unfold in their totality”<sup>9</sup> – what we have chosen to call *operational*. This choice is problematic: *operational* has a number of other common meanings, even in a military context –

---

<sup>8</sup> The term middle-power comes from the five-tier world-view, which ranks countries in five groups based on their ability to project power. The USA is the lone first-power. The second group comprises the great powers – essentially the permanent five on the UN security council plus Japan and Germany. The third group – the middle-powers – includes Canada, Australia, and many other developed countries. Middle-powers are generally free of internal security problems, regionally influential, and possess a limited ability to project power outside their region. Peter Johnston, *Military Assessment 2002* (Department of National Defence, 2002, accessed 10 October 2003); available from [http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/milassess/2002/intro\\_e.asp](http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/milassess/2002/intro_e.asp).

<sup>9</sup> Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, MA: The Belknap Press of Harvard University, 1987), 91.

e.g. whether an item is functional or in use, or to denote war-fighting as opposed to administrative, garrison and training issues. Before proceeding we must therefore be fairly certain of what we mean by *operations* or *operational*, let alone the operational level or operational art. US Doctrine will serve as the baseline for common understanding as it is not only mature and consistent across service and joint doctrine, but was also the model for Canadian and allied definitions, which for the most part remain true to their US sources.<sup>10</sup> US Doctrine does not define *operational*, per se, and only defines *operation* in the broad sense of any military action. However, it does define *major operation* in the sense that we mean:

A series of tactical actions (battles, engagements, strikes) conducted by various combat forces of a single or several Services, coordinated in time and place, to accomplish operational and, sometimes, strategic objectives in an operational area. These actions are conducted simultaneously or sequentially in accordance with a common plan and are controlled by a single commander.<sup>11</sup>

The starting point for discussion is therefore a common understanding of *operational* as related to the planning and conduct of *major operations* – i.e. involving a series of coordinated tactical actions, in a defined time and space, linked by design, and directed by a single overall commander, to achieve a common strategic or operational object.

## **Operational Doctrine**

### **By the Book**

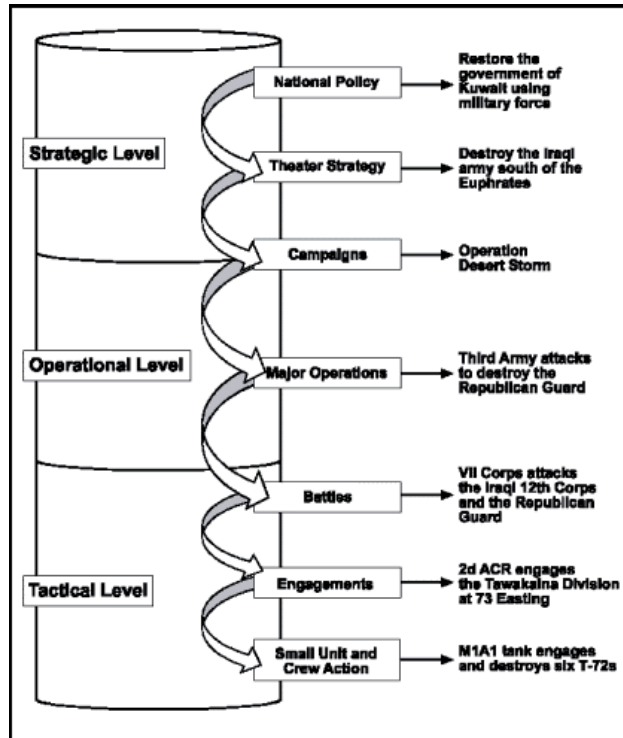
The concept of three levels of war – strategic, operational, and tactical – has been adopted by all US and most allied military services to provide a doctrinal perspective clarifying the links between strategic objectives and tactical action. Together they form an integrated, unifying whole, applicable across the spectrum of conflict. While the three levels are hierarchical,

---

<sup>10</sup> Except where significant differences exist, or where Joint doctrine is inadequate, US Joint terminology and definitions will be used throughout this paper. See United States, *Joint Publication (JP) 1-02: Department of Defense Dictionary of Military and Associated Terms* (United States Department of Defense, 2001, accessed 10 December 2003); available from <http://www.dtic.mil/doctrine/jpreferencepubs.htm>.

<sup>11</sup> Ibid. (accessed).

the boundaries are not sharp and they can overlap. Theoretically at least, the levels of war are not directly associated with specific levels of command, sizes of unit or operating area, or types of forces or equipment.<sup>12</sup>



**Figure 1: The Levels of War<sup>13</sup>**

The strategic level, at the top, is the level of conflict at which a nation, or group of nations, “determines security objectives and guidance, and develops and uses national resources to accomplish these objectives.” Strategy, then, is “the art and science of developing and employing instruments of national power...to achieve theater, national, or multinational objectives.” It is essentially concerned with balancing ends, ways, and means in order to achieve

<sup>12</sup> Coombs, “Perspectives of Operational Thought.” provides a succinct comparison of US, Canadian, and NATO operational doctrine. In most instances, US and Canadian Joint and Army doctrinal definitions all agree. However, Canadian doctrine substitutes “conflict” for “war” in discussing the levels, reflecting not only Canada’s predilection to participate in conflicts short of war, but also the formal adoption of a spectrum of conflict vs. clear break between war and operations-other-than-war in doctrine. Also see United States, *JP 1-02* (accessed), United States, *Joint Publication (JP) 3-0: Doctrine for Joint Operations* (Washington, DC: United States Department of Defense, 2001).

<sup>13</sup> United States, *Army Field Manual (FM) 3-0: Operations* (Washington, DC: Department of the Army, 2001), 2-3, United States, *JP 1-02* (accessed).

policy goals. The tactical level, at the bottom, is where battles and engagements are planned and executed. Tactics – the employment of units in combat, or other military actions – is concerned with the detailed methods used to maneuver and employ units in relation to each other and the enemy (or adversary). The operational level, in the middle, is the level at which “campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or other operational areas.” Characterized by broader time and space implications than the tactical level, it links and integrates the tactical employment of forces with strategic goals. It is almost always Joint, and is increasingly combined (multi-national) and interagency in nature. The focus of the operational level is on the operational art.<sup>14</sup>

US Joint doctrine defines operational art as “the employment of military forces to attain strategic and/or operational objectives through the design, organization, integrations and conduct of strategies, campaigns, major operations and battles.” Its main function is to translate strategy, by means of operational design<sup>15</sup>, into tactical actions that are coherently arranged in time, space, and purpose. It accomplishes this by establishing intermediate operational objectives, and then determining where, when, and how tactical action will be sequenced and synchronized in order to achieve these objectives. Operational art generally must answer four key questions:

- (1) What military (diplomatic, informational, or economic) conditions must be produced in the operational area to achieve the strategic goals (ends)?
- (2) What sequence of actions is most likely to produce the required conditions (ways)?
- (3) How should resources be applied to accomplish that sequence of actions (means)?
- (4) What are the potential costs or risks involved (risk management)?

---

<sup>14</sup> United States, *JP 1-02* (accessed).

<sup>15</sup> Ibid. (accessed). The key considerations used as a framework in the course of planning for a campaign or major operation. The facets (Joint) or elements (Army) of operational design used to facilitate this process are the “curious mixture of modified Clausewitz and Jomini” that are now familiar – centers of gravity, decisive points, lines of operations, culminating points, etc. Also see United States, *FM 3-0*, 5-6. and Bruce W. Menning, “Operational Art’s Origins,” *Military Review* 77, no. 5 (1997).

The operational level and operational art, while closely related and sometimes used interchangeably, are not synonymous. The operational level is essentially defined by its position between strategy and tactics, along with the activities, including operational art, that must take place to integrate the two. Operational art, on the other hand, is defined by the process or function of this integration – the *how* as much as the *what*. It is also generally considered to be broadly applicable outside the operational level.<sup>16</sup> Finally, the operational level and operational art are both closely related to campaigns and campaign planning. A Campaign is a “series of related military operations aimed at accomplishing a strategic or operational objective within a given time and space.” It is required when it is anticipated that more than a single major operation will be required to achieve the strategic goals. Thus, although the doctrinal definition reads like a shortened version of that for major operations, campaigns – at the theater-of-war or theater-of-operations level – are hierarchically above, and include, major operations. In this construct, campaign planning – “the process whereby combatant commanders and subordinate joint force commanders translate national or theater strategy into operational concepts through the development of campaign plans” – is a subset of operational design that has a strategic aspect only applicable to campaigns.<sup>17</sup>

This highlights an important divergence of Canadian from US doctrine: Canadian doctrine explicitly places the campaign at the operational level, and defines campaign planning as “the practical application of operational art.”<sup>18</sup> Unlike US doctrine, it does not draw a distinction between campaigns and major operations, campaign planning and operational design, or the

---

<sup>16</sup> The US definition of operational art encompasses the design and execution of strategies and battles, as well as campaigns and major operations. As well, Canadian doctrine explicitly recognizes that the compression or merging of the levels of conflict requires operational *art* to “transcend the levels of conflict,” and characterizes operational *level* as the “joint synchronization level” of conflict. Department of National Defence. Canada, *B-GJ-005-500/FP-00: Canadian Forces Operational Planning Process* (Ottawa, ON: DND, 2002), 2-2. See also Kenneth G. Carlson, “Operational Level or Operational Art?,” *Military Review* 67, no. 10 (1987): 53-54. Carlson offers the opposing view, suggesting that operational art only occurs when the end is strategic and the means tactical, then the “way” is operational and hence at the operational level.

<sup>17</sup> United States, *JP 1-02* (accessed).

<sup>18</sup> Canada, CFP 5-5: CF Operational Planning Process, 2-1 and 2-6.

theater-strategic and operational levels.<sup>19</sup> This is not surprising considering that Canada lacks the US strategic framework of permanent theaters or “Combatant Commands,” which fulfill both strategic and operational functions. It does however, highlight that the American understanding of the levels of conflict, operational art, and campaigning are defined to a great extent by their actual strategic framework.

## Levels of Confusion

When the levels of war were first introduced into US Doctrine in the 1982 version of FM 100-5, the idea was to help senior commanders to differentiate between the variable natures of fundamental categories – specifically of maneuver – at each level, and to explore the interrelationships that existed between the levels themselves. The boundaries between the levels, which were never seen as finite or fixed, have been coming under increasing pressure, largely driven by technology. The resultant interpenetration or merging of the levels has only served to increase uncertainty surrounding the nature and limits of the operational level. The vagueness of the 1982 definition – as a “broad division of activity in preparing for and conducting war” that “uses available military resources to attain strategic goals within a theater of war” – and its general description as “most simply...the theory of larger unit operations,” produced an obscure and somewhat ill-defined conception of what was operational. Additionally, the paradigm of levels, by placing the emphasis on locus as opposed to function – where as opposed to what – was in itself problematic. As a result, some writers took to using other terms, such as the operational *sphere, field, or perspective*.<sup>20</sup> In 1986 the operational level was removed from doctrine and replaced by the operational art, which better represents the cognitive aspects of the concept. “At

---

<sup>19</sup> Andrew Leslie, “Theatre Level Warfare: the Missing Link?” (Canadian Forces College, 1999).

<sup>20</sup> Swain, “Filling the Void,” 160. Swain discusses the shortcomings of the “level” paradigm. Clayton R. Newell, *The Framework of Operational Warfare, The Operational Level of War*, ed. Michael Krause and Andrew Wheatcroft (New York: Routledge, 1991), 15-17. Newell used “perspective” as opposed to “level.”

last the Americans managed to perceive the operational field as a new and distinct cognition, consequently abandoning the artificial and extraneous, categorization of levels of war.”<sup>21</sup>

However, the operational level has crept back into doctrine alongside operational art, where it continues to perpetuate the misconceptions that it caused when first introduced. Most fundamentally, the paradigm of levels introduces connotations of stratified and distinct layers, in which the operational separates strategic from tactical, rather than linking or integrating them. This focus on separation is evidenced in the preoccupation of staffs with clearly defining the division of responsibility between the layers. The metaphor of physical layers also unintentionally suggests a functional similarity between the tactical, operational and strategic levels, in which the operational differs primarily in scope or scale, representing an efficient division of effort, and not a unique cognition.<sup>22</sup> Additionally, despite doctrinal admonitions to the contrary, the hierarchical nature of these layers has permitted the levels of war to become conflated with levels of command.<sup>23</sup> The operational level in particular has become primarily associated with, and fixed at, specific echelons within the American global, theater-strategic framework. Finally, the “location” aspect of levels has permitted the identification of any activity that takes place above the tactical and below the strategic as “operational” regardless of its nature.<sup>24</sup>

Why then was the operational level resurrected? In short, while imperfect, it does a better job of representing the intermediary position between strategy and tactics than does the concept of operational art by itself.<sup>25</sup> Additionally, while the operational art better represents the intuitive-

---

<sup>21</sup> Shimon Naveh, *In Pursuit of Excellence: The Evolution of Operational Theory*, The Cummings Center Series, ed. Gabriel Gorodetsky (Portland, OR: Frank Cass Publishers, 1997), 12.

<sup>22</sup> *Ibid.*, 306.

<sup>23</sup> Milan Vego, *NWC 1004: Operational Warfare* (Newport, RI: US Naval War College, 2000), 17. discusses the confusion. The problem is evident in Canadian doctrine, which defines specific strategic, operational and tactical levels of command that correspond directly to each level of conflict. Department of National Defence. Canada, *B-GG-005-004/AF-000: Canadian Forces Operations* (2000), 2-5.

<sup>24</sup> Ash Irwin, *The Levels of War, Operational Art, and Campaign Planning* (Camberly: Strategic and Combat Studies Institute, 1993), 8. Irwin suggests that any activity that directly contributes to the strategic aim is operational, while Canada, *CFP 5-4 Canadian Forces Operations*, 1-5. states that any unit tasked to achieve a strategic objective is functioning at the operational level. By this standard almost any activity or unit could be said to be operational.

<sup>25</sup> Carlson, "Operational Level or Operational Art?," 53-54.

creative aspects of the concept, it does not adequately connote the technical or “scientific” aspects embodied in campaign planning and operational design. Vego has proposed using the term “operational warfare,” to encompass both the creative and technical aspects.<sup>26</sup> However, the inherent implication in this term that operational concepts only apply in “warfare” is problematic since US Army doctrine and Canadian doctrine no longer recognize a clean break between war and operations-other-than-war (MOOTW), but rather see a continuous spectrum of operations.<sup>27</sup> One Canadian approach is to define the operational level as encompassing both operational art and campaign planning (operational design). Although this successfully distinguishes between the level and the art, as well as representing both the intuitive and technical aspects of operational art, at the same time it blurs the US doctrinal distinction between operational design and campaign planning.<sup>28</sup>

Regardless, it can be concluded that neither operational art nor the operational level, when taken alone, adequately expresses both the function and intermediary position of the operational concepts. So while different, operational art and the operational level need to be considered together, as two component aspects of an overall operational construct or framework that sits between and fuses strategy and tactics. Furthermore, the concept of an operational level, while addressing the positional aspect, has also contributed significant misunderstandings. From a middle-power perspective, it may be too closely entwined with the American strategic framework of combatant commands and theaters to be easily and directly applied. It might be better, when thinking in a middle power context, to use more generic terminology, such as the operational function (vs. art) and operational domain (vs. level).

---

<sup>26</sup> Vego, NWC 1004: Operational Warfare, xiv.

<sup>27</sup> United States, *FM 3-0*, 1-16. and Department of National Defence. Canada, *B-GL-300-000/FP-000: Canada's Army: We Stand on Guard for Thee* (1998), 73-75.

<sup>28</sup> Coombs, "Perspectives of Operational Thought," 4-5, McAndrew, "Operational Art and the Canadian Army's Way of War," 87-88.



## A Canadian Interpretation

Canada's joint-operational doctrine is extremely close to the US doctrine on which it is based, to the point of being framed in a theater context that would be difficult to apply except in combined operations with the US military. And while Canadian doctrine defines a looser connection between the operational level and operational art – considering operational art to be applicable across the levels of conflict – it has also drawn a direct correlation between levels of conflict and levels of command, and between the operational level and jointness. It is not surprising, then, that a great deal of effort has gone into trying to determine how Canada could best implement a joint-operational level of command, between the national military-strategic HQ and deployed tactical contingents. Yet, having created the doctrine, structures, and procedures to permit this, the Canadian Forces (CF) end up consumed in issues surrounding division of responsibility, and delegation of authority – focused on the separation, rather than the integration, of the levels, and characterized by a strategic level that is either unwilling or unable to define what it can let go of.<sup>29</sup>

The Canadian Army problem, while different, is no better. The introduction of operational level doctrine in the Canadian Army can be described less as the operationalization of a tactical army, than the tactification of operational ideas. Heavily influenced by British and American manoeuvrist thinkers, the Canadian Army's operational level doctrine proudly declares that: "the Canadian army seeks a manoeuvrist approach to defeat the enemy by shattering his moral and physical cohesion, his ability to fight as an effective coordinated whole, rather than by destroying him physically through incremental attrition."<sup>30</sup> The Canadian Army, like the British, saw this as a way for small, capable forces to defeat larger, less-agile foes while

---

<sup>29</sup>G.L. Garnett, "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level," *Canadian Military Journal* 3, no. 4 (2002): 3-8. For level of command issue see also Department of National Defence. Canada, *Strategic and Operational Level Lessons Learned from Recent Major Operations* (Ottawa, ON: DND, 2003), Issue Synopsis.

<sup>30</sup> Department of National Defence. Canada, *B-GL-300-001/FP-000: The Conduct of Land Operations - Operational Level Doctrine for the Canadian Army*, vol. 1, 2 vols. (1998), 15. Direct reference is made in the manual to the influence of British Army and US Marine doctrine.

minimizing head-on battles of attrition.<sup>31</sup> The adoption of the “manoeuvreist approach” as the Army’s official operational doctrine did generate some backlash, mainly for the manner in which its proponents harshly condemned Canadian military heritage and accomplishments for their supposedly attritionist nature.<sup>32</sup> What the manoeuvreists seemed to miss was “the nasty little secret that has plagued all commanders from Patton at Metz to Schwartzkopf at Desert Shield: attrition precedes manoeuvre.”<sup>33</sup> A number of recent studies have also convincingly refuted the manoeuvre-attrition dichotomy that underlies this approach. By demonstrating that it serves to reinforce, rather than break, a purely tactical focus, they seriously challenge its suitability to form the basis of a coherent operational doctrine.<sup>34</sup>

The Army is therefore beginning to recognize that the manoeuvreist approach is “divorced from Canadian geo-strategic and tactical realities.” Yet it persists in espousing the notion that operational “manoeuvre warfare” precepts can nevertheless be applied in a tactical context – that is, to win the tactical fight through the use of manoeuvre and tempo-induced shock.<sup>35</sup> In his discussion of the US operational doctrine and Airland Battle, Shimon Naveh has specifically cautioned against this “tactification” of operational concepts for its tendency to promote the mechanistic nature of all-arms combat (to destroy or defeat) at the expense of operational synergy (to disrupt), a practice that he ties to the opportunistic and methodic *blitzkrieg* idea. So it would appear that the Canadian Army has adopted an operational doctrine that it cannot apply at the operational level, and that is not really applicable at the tactical level.

---

<sup>31</sup> Richard Simpkin, “Manoeuvre and the Small Army,” *British Army Review*, no. 78 (1984): 6-7.

<sup>32</sup> Jarymowycz, “Seduction by Foreign Dogma,” 48. Also Andrew B. Godefroy, *Returning to the Operational Art? The Canadian Forces Joint Operations Group* (2002, accessed 19 Sep 2003); available from <http://www.cda-cdai.ca/symposia/2002/godefroy.htm>.

<sup>33</sup> Roman J. Jarymowycz, “General Guy Simonds: The Commander as Tragic Hero,” in *Warrior Chiefs: Perspectives on Senior Canadian Military Leaders*, ed. Bernd Horn and Stephen Harris (Toronto: Dundurn Press, 2001), 130.

<sup>34</sup> Ian C. Hope, “Misunderstanding Mars and Minerva: The Canadian Army’s Failure to Define an Operational Doctrine” (Monograph, U.S. Army Command and General Staff College, 2000), Paul Johnston, “The Myth of Manoeuvre Warfare: Attrition in Military History,” in *The Changing Face of War*, ed. Allan D. English (Kingston, ON: McGill-Queens’ University Press, 1998).

<sup>35</sup> R.L. Bowes, *Canadian Army of Tomorrow: Capstone Operating Concept* (Kingston, ON: Directorate of Army Doctrine, 2003), 14, Draft.

By attempting to do so, the Canadian Army, like the *Wermacht* 60 years ago, runs the risk of thinking tactical excellence can substitute for lack of operational cognition – obviating the need for a coherent theory of operations to provide a conceptual framework.<sup>36</sup>

In this discussion, it has become clear that the attempts to apply operational doctrine to the Canadian situation have been dominated by the incompatibility between the Canadian strategic realities and the inherent context in which that doctrine is set – that of large forces conducting decisive operations within a global theater framework. As a result, attempts to define an operational level of conflict have become focused on levels of command and the division of responsibility, not its intended integrating role. Likewise, attempts to apply operational art to land operations have focused on applying operational concepts within a tactical framework – the tactification of operational art – and not on operational design. In other words, the current doctrine does not provide a suitable middle-power operational framework. Such a framework, if it is even possible, will only be found by examining the origin and nature of the operational theory that underpins the doctrine, and then only if the central ideas – the essence – of operational art can be distilled to a form independent of the accepted context.

## **Operational Theory**

### **The Origins of Operational Art**

The roots of the operational level and operational art lie in the ascendance of the nation-state and the industrial revolution in the Nineteenth Century, which together provided the means to mobilize and employ mass armies. These nationally supported, mass armies grew too large to control centrally, and they also possessed a robustness and resiliency that made it impossible for them to suffer decisive defeat in a single battle. And while the increasing lethality of weapons drove these armies to disperse over vast distances, new manufacturing, transportation, and

---

<sup>36</sup> Naveh, *In Pursuit*, 128-146, 300.

communications technologies permitted their sustainment, movement and coordination over these same distances. As a result, the strategy of the single point – and with it the Clausewitzian ideal of a, concentrated, decisive battle of annihilation – was replaced by protracted, distributed operations consisting of numerous, indecisive, attritional battles of exhaustion, distributed across large theaters. It was in this context that the need arose for something between strategy and tactics – something to integrate these separate engagements, battles, and operations into a coherent overall effort, directed at achieving a common policy goal. That something was the operational art.<sup>37</sup>

Meanwhile, whether due to the distributed and indecisive nature of modern battle, or otherwise to the nature of the modern nation-state, heads-of-state and their most senior military advisors began to play ever decreasing roles as field commanders, relying instead upon an increasingly professional officer corps. It could be argued that this intermediate level of command – concerned with more than battles, but not necessarily privy to national strategy – gave rise to the idea of a distinct operational level of command, rather than the operational art as a function.

There is some dispute about when exactly the operational art made its debut. Dr Robert Epstein ties its emergence to the campaigns of Napoleon, the operational character of which he argues is demonstrated in Napoleons use of distributed maneuver by separate divisions and corps, under decentralized command, to achieve cumulative success through the conduct of simultaneous and sequential tactical engagements.<sup>38</sup> Dr James Schneider, on the other hand, asserts that operational art was not fully formed until the American Civil War. He argues that although late-Napoleonic warfare exhibited many of the necessary characteristics of operational art, such as the distributed movement of separate corps, it nevertheless followed a classical

---

<sup>37</sup>Menning, "Operational Art's Origins." And James J. Schneider, "The Loose Marble - and the Origins of Operational Art," *Parameters* 19 (1989): 85-87.

<sup>38</sup>Robert M. Epstein, *Napoleon's Last Victory: 1809 and the Emergence of Modern War* (Fort Leavenworth, KS: School of Advanced Military Studies, US Army Command and General Staff College, 1992), 7-11. Epstein defines the operational level simply as "the link between theater-wide maneuvers and battle or battles," and operational art as "the process of action and thought performed at this middle level."

strategy that was aimed at “achieving concentration through concentric maneuver upon a single decisive point.”<sup>39</sup> By contrast, the US Army’s 1864 and 1865 campaigns exhibited a number of aspects that distinguished them substantively from classical or Napoleonic strategy, and which closely parallel the modern conception of operational art:<sup>40</sup>

- (1) Independent field armies, controlled by an army group headquarters – the operationally durable formation;
- (2) The distributed operation;
- (3) The distributed campaign;
- (4) Distributed (continuous) logistics;
- (5) Deep pursuit or exploitation forces (strategic cavalry);
- (6) The deep strike;
- (7) Joint operations;
- (8) Distributed free maneuver;
- (9) The continuous front;
- (10) The distributed (or empty) battlefield; and
- (11) Operational vision.

At its heart, Schneider argues, operational art is about the synchronization of *simultaneous* but distinct actions *distributed* (i.e. as opposed to concentrated) across a theater, and *successive* actions throughout the *depth* of the theater<sup>41</sup>. Its character can be summarized in a single overarching concept: “the employment of forces in deep distributed operations.”<sup>42</sup> Finally, Grant added to this a coherent and shared operational vision, in the form of a “single unified war plan,” that permitted him to orchestrate the actions of his separate field armies – each conducting

---

<sup>39</sup> James J. Schneider, *Theoretical Paper No. 4: Vulcan's Anvil: The American Civil War and the Emergence of Operational Art* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1991), 29-30.

<sup>40</sup> Schneider, "Loose Marble," 90-97. See also Schneider, *Vulcan's Anvil*, 33-56.

<sup>41</sup> Schneider, "Loose Marble," 87-88.

<sup>42</sup> Schneider, *Vulcan's Anvil*, 31. For a point by point comparison between classical strategy and operational art see also James J. Schneider, *Theoretical Paper No. 3: The Theory of Operational Art* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1988), 14.

its own series of operations – in time, space, and purpose.<sup>43</sup> This “integration of temporally and spatially distributed operations into one coherent whole” is what Schneider considers to be the hallmark of operational art.<sup>44</sup>

There is one key aspect of operational art from the Civil War that merits specific discussion: operational (or distributed-free) maneuver, which Dr Schneider considers to be the very essence of operational art.<sup>45</sup> Maneuver, whether tactical, operational, classical-concentric, or distributed and free, is basically movement in combination with fire or fire potential to achieve a positional advantage over an enemy or adversary.<sup>46</sup> The difference between classical and operational maneuver is in the purpose for which this positional advantage will be used. In classical strategy, maneuver was conducted to gain positional advantage for battle, since the strategic aim was the destruction of the main enemy force. This essentially describes tactical maneuver today. Operational maneuver, however, is about gaining, preserving, or denying freedom of action. It is defined as: “relational movement in depth that maximizes freedom of action for the destruction of the enemy capacity to wage war,”<sup>47</sup> or more generally to achieve his aim. In this operational context, battles are not fought solely to destroy or defeat the enemy, but primarily to retain or deny freedom of action. So whereas in classical strategy the destruction of the enemy through battle had become the main object in war<sup>48</sup> – an end in its own right – in an operational context battlefield destruction, and perhaps all tactical action, is only a means, a part of the overall operational design. Instead, because of the new dimension of depth in operational

---

<sup>43</sup> Schneider, *Theory of Operational Art*, 15.

<sup>44</sup> Schneider, "Loose Marble," 87-88.

<sup>45</sup> James J. Schneider, "Theoretical Implications of Operational Art," *Military Review* 70, no. 9 (1990): 22.

<sup>46</sup> United States, *JP 1-02* (accessed).

<sup>47</sup> Schneider, *Vulcan's Anvil*, 34.

<sup>48</sup> Carl von Clausewitz, *On War*, trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 95.

warfare, it is operational maneuver that becomes an end in itself: by gaining and denying freedom of action, it permits or prevents adversaries from achieving their respective objectives.<sup>49</sup>

What is evident from the above is that the emergent operational art was not only couched within the familiar context of large-force, extended-theater operations, but that it was this context – the imposition of depth and lateral distribution on the military domain – that precipitated its adoption. It emerged in the US Civil War not as a conscious theory or deliberate doctrine, but as an empirical necessity. Consequently, this nascent operational art came to be defined descriptively in terms of its visible characteristics – what it looks like – as opposed to functionally – what it does, and how. Together, these three factors make it difficult to extrapolate Civil War operational practice to a middle-power context. It would be over a half a century later, and half a world away in Russia, that a coherent written operational theory and doctrine would first take shape.

## Soviet Operational Theory – Deep Successive Operations

Perhaps uniquely suited to fully comprehend the ramifications of size and space, the Soviet Army in the 1920s and 1930s led in the recognition of the operational level, and the development of operational art as a distinct military function. The Soviets thought about the operational art in the context of total war, and they viewed modern warfare as systemic and protracted, to be conducted on a large scale and ultimately calling on the state's total resources. They therefore perceived the linkages between tactics and strategy as physical as well as cognitive – with the fighting front inherently linked to, and dependent upon, the supporting rear. Combat power could only be generated and sustained in depth, from the rear to the front, and the enemy could only be defeated by disrupting the connections between his front and rear. The Soviet inter-war theorist G.S. Isserson also perceived a qualitative change in the nature of armed forces since 1914 that potentially outweighed the quantitative changes in mass, distance and time,

---

<sup>49</sup> Schneider, *Vulcan's Anvil*, 33-35.

in terms of its effect on the coherent planning and conduct of operations. This was the disaggregation of homogeneous armies from a few basic arms into a vast array of specialized corps and services whose complex interactions were critical to the functioning of each part and the army as a whole. Recognizing the challenge that such progressive differentiation poses for the regulability or controllability of any system, Isserson deduced that the main function of operational art was the re-aggregation – or integration – of these diverse capabilities and effects.<sup>50</sup>

In coming to grips with scale and extent of modern warfare, the lead theorists at the Soviet higher staff schools recognized that the military problem had become too large, too varied, and too unpredictable to be planned and executed as a single campaign. At the same time, the inherent interconnectedness between forces and actions throughout the breadth and depth of the theatre meant that tactical actions were not self-contained, and victory in engagements and battles did not necessarily add up to achieving the overall strategic aim. The key to unlocking this problem lay in the intermediate connecting activity - what they came to call the operational art. The term "operational art" was first coined by A.A. Svechin as “the means by which the senior commander transformed a series of tactical successes into operational ‘bounds’ linked together by the commander’s intent and plan and contributing to strategic success in a given theater of military actions.”<sup>51</sup> This very broad definition, while strikingly similar to current doctrine, implicitly depends on the Soviet conception of the operation itself, which Svechin defined as “an act of war [in which] the efforts of troops are directed toward the achievement of a certain intermediate goal in a certain theater of military operations without any interruptions.”<sup>52</sup> Unlike tactical actions, which cannot be considered individually, or overall war and campaign strategy,

---

<sup>50</sup> Menning, "Operational Art's Origins," 37. Systems aspects of operations will be discussed in the next section. See Ludwig von Bertalanffy, *General System Theory*, Revised ed. (New York, NY: George Braziller, 1968), 71-74.

<sup>51</sup> Aleksandr A. Svechin, *Strategy*, trans. Kent D. Lee (Minneapolis, MN: East View Publications, 1992), 38. This particular translation is actually in the preface by Jacob Kipp. Svechin’s definition of Operational Art is very close to the modern doctrinal one.

<sup>52</sup> *Ibid.*, 69. The Soviet conception of an *operation* essentially matches the US doctrinal definition of a *major operation*.



which cannot be planned and executed as a single, unified event, only the operation is complete and self-contained in purpose, time, and space – an autarkic entity. It is in this context that Svechin championed the idea of successive operations, each with a limited goal, over the idea of a single campaign. This, in turn, is key to understanding Svechin's three-fold division of military art – in which “ tactics takes the steps that make up an operational leap, and strategy points the way,” – as three distinct functions, not similar activities on a different scale. The strategic aim provides the unifying purpose (direction), but cannot effectively guide individual tactical actions. These must instead be treated as parts of the self-contained operation designed to achieve a limited intermediate objective (leap). The strategic end is reached not through the steady plodding of tactical steps, but through successive (but limited) operational leaps. The idea of successive operations is therefore inherent and central to Soviet operational theory.<sup>53</sup>

V.K. Triandafillov and M. Tukhachevski further determined that operational success required planning and executing operations in depth – successive deep operations.<sup>54</sup> As Triandafillov explains, the attacking forces must “surmount the entire depth of the enemy tactical disposition” to get beyond the enemy's capability to react and adjust within his current dispositions – into what came to be defined as his operational depth.<sup>55</sup> In the context of large continental armies tied to a supporting rear, this came to be identified with maneuver to the physical depth at which the tactical formations can be severed from their supporting rear, and their tactical dispositions – the entire purpose behind them – are rendered irrelevant. But beyond the spatial or geographic dimension, depth was also embodied in the robustness of forces and supporting structures that could sustain the successive operations necessary to achieve and

---

<sup>53</sup> Jacob W. Kipp, "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art, 1920-1932," in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger, 1996), 68. Also Svechin, *Strategy*, 269.

<sup>54</sup> Kipp, "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art, 1920-1932," 72-74.

<sup>55</sup> V.K. Triandafillov, *The Nature of the Operations of Modern Armies*, ed. Jacob W. Kipp, trans. William A. Burhans, CASS Series on the Soviet Study of War, ed. David M. Glantz (Portland, OR: Frank Cass, 1994), 109-116.

maintain this positional depth. This, as much as the vast expanse of the Russian steppe, explains the Soviet thinker's insistence on "sufficient quantity" and a corresponding conviction that small professional armies could not function operationally.<sup>56</sup> Furthermore, in addition to the obvious physical (positional, material, and temporal) dimensions, the concept of depth can be thought of in moral terms – as depth of resolve. From a defender's perspective, depth embodied the space, time and strength (forces, resources, and resolve) that provided the resiliency necessary to absorb and react to an attack. Depth, in other words, translates into freedom of action, which is, as Dr Schneider suggests, at the very heart of what is operational. Operational warfare, then, is not about destruction, but is essentially a struggle over freedom of action, decided by actions in the enemy and friendly depth. What we see here is the beginning of an operational cognition defined by a systems approach to conflict and the conduct of military operations.<sup>57</sup>

## Operational Art and Systems Theory

In his in-depth exploration of operational theory, *In Pursuit of Military Excellence*, Shimon Naveh uses General System Theory to establish a framework for understanding the operational art. Naveh proposes that operational theory, as developed by the Soviets, and reinvented by the US Army doctrine some 50 years later, is in fact the "military version of the *Gestalt* philosophy or the theory of general systems," and the operational level is the "implementation of the universal system in the military sphere."<sup>58</sup> General System Theory is "a general science of 'wholeness'," which holds that the characteristics of complex phenomenon and organizations cannot be explained by the characteristics of their constituent parts in isolation, but can only be truly understood through examination of the whole system. System behavior and

---

<sup>56</sup> Ibid., 26-29. Or as M. Tukhachevski colourfully declared: "Is it not already clear that talk about small, but mobile, mechanized armies in major wars is a cock-and-bull story? Only frivolous people can take them seriously." Quoted in Kipp, "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art, 1920-1932," 79.

<sup>57</sup> Schneider, *Vulcan's Anvil*, 33-35.

<sup>58</sup> Naveh, *In Pursuit*, 3, 9.

outcomes are therefore non-linear and are not summative – the “whole is greater than the sum of the parts.” This stands in contrast to the classical reductive-analytical model, which describes a structure in terms of its components, and assumes a summative (linear) relationship between them. System theory is useful because it provides a common set of principles and cognitive tools that arguably can be used to study any system, regardless of its components or interactions (hence the generality of the theory). So, for example, any system can be categorized as either closed (isolated from its environment), or open (interacting with its environment), and defined and assessed in terms of three basic parameters: the number of elements (quantity); the different types of elements (species); and the nature of the relationships between the elements (substance).<sup>59</sup>

Naveh considered military organizations as typical open systems, in which the mass or size of force represents quantity, the diversity of arms and services represents species, and the strategic aim represents the unifying substance that links the elements.<sup>60</sup> He also ascribes five defining attributes of military systems:

- (1) Progressive differentiation into deep hierarchical structures (succession and echelonment);
- (2) The absolute dominance of the system’s aim;
- (3) Cognitive tension between the system and its components;
- (4) The synergetic (constitutive, non-linear) effect of system interactions; and
- (5) The chaotic nature of the military environment.<sup>61</sup>

The main thrust of Naveh’s framework is contained in three key concepts: The nature and dominance of the aim; the idea of cognitive tension; and the mechanism of operational shock, which together represent the end, ways, and means of operational warfare. Firstly, the central importance of the aim cannot be overstated. Described as the “brain, heart, and self-regulating

---

<sup>59</sup> von Bertalanffy, *General System Theory*, 36-55. Bertalanffy defines a system as a “set of elements standing in interrelations.” An open system is a system that exchanges energy or matter with its environment.

<sup>60</sup> Naveh, *In Pursuit*, 9.

<sup>61</sup> *Ibid.*, 5-7.

agency” of a system, it provides the system purpose, direction and cohesiveness – in essence its entire logic or *raison d’être* – which defines both its greatest strength and greatest potential weakness. In the domain of conflict, where the objective is not the attainment of some inanimate object, but the defeat of a thinking adversary, the aim is also dual in nature; it encompasses both the achievement of one’s own objective, and the denial of the rival’s.<sup>62</sup> The other important aspect of the aim is its abstract and undefined nature. In other words the strategic objective, which is typically an ephemeral and existential expression of a desired outcome (a state of being), is insufficiently precise, focused, or delimited to directly guide concrete tactical action. Like Svechin, Naveh therefore defines the basic operational function in terms of selecting limited intermediate objectives.

Moving the system from a state of abstract, cognitive commonality to a practical course of positive progress can only be achieved by translating the overall aim into the concrete objectives and missions for the system’s individual components.<sup>63</sup>

This leads to the concept of cognitive tension. According to Naveh, the difficulty in translating – or transforming – strategic intent into practical action lies in the basic incompatibility of the tactical means with the strategic ends. It is a dichotomous relationship that both creates and demands a cognitive tension between the “abstract and mechanical extremes” of strategy and tactics. In other words, the operational level does not so much integrate strategy and tactics, as it binds or fuses them together by maintaining a “controlled disequilibrium between the general aim and specific missions”.<sup>64</sup> The management of this cognitive tension – the reconciliation of dichotomies – defines the operational level or domain, and demands a unique dialectical thought process – an operational cognition – which is distinct from strategic or tactical thinking, and encapsulates the essence of operational art:

---

<sup>62</sup> Ibid., 14-15. Since in conflict it is impossible for both adversaries to simultaneously achieve their aims (else there would be no conflict), it is necessary to both pursue one’s own objectives (positive aim) and thwart the enemy’s (negative aim).

<sup>63</sup> Ibid., 6.

<sup>64</sup> Ibid., 7, 24. The cognitive tension between strategic aim and tactical action is manifested in myriad dialectical relationships such as maneuver-attrition, disruption-destruction, column (depth)-front (linearity), control-delegation, etc.

Thus, whereas military strategy and tactics strive, through the calculated investment of resources and optimization of their employment, to support the politician's intention to produce a new reality, the operational art interprets, through dialectical thinking, the military implications resulting from the political decisions, and initiates future situations to lead to the materialization of the desired reality.<sup>65</sup>

Naveh's third key concept is that of operational shock, which he defined as "the state of a system that can no longer accomplish its aim."<sup>66</sup> Since a system's aim represents its central logic and provides the "cognitive cement" that holds it together, a system robbed of its aim has no purpose, no reason to exist, and will tend to disintegrate. Paradoxically then, a military system's greatest source of strength – its unifying aim – is also its greatest potential vulnerability, since without it, the system has no meaning. Hence the aim's dual nature in which rendering the rival aim unachievable – pursuing the negative aim – becomes central to achieving one's own goals. Operational shock can be most directly achieved by removing or destroying the aim itself, or barring that, by separating the aim, as embodied in the operational command, from the system. However, this is not always possible.<sup>67</sup>

An alternate, indirect approach to achieving operational shock is through exploiting another key characteristic and potential vulnerability of the military system: its inherently deep, hierarchical structure. This structure, in Naveh's model, possesses a horizontal (linear, frontal) dimension and a vertical (deep, columnar) dimension. The horizontal dimension is primarily static, and expresses energy, which it does by striking or absorbing a blow, and in holding or fixing an opponent. The vertical dimension expresses movement and responsiveness (resiliency); it delivers shock by sequentially generating and sustaining combat power from the rear to the front and into the enemy's depth. Operational shock is achieved by disrupting the system through the use of offensive striking maneuver in one of four ways:

- (1) By division or fragmentation, in both the horizontal and vertical dimensions, to separate fighting elements from each other and from their supporting rear;

---

<sup>65</sup> Ibid., 306.

<sup>66</sup> Ibid., 16.

<sup>67</sup> Ibid., 17.

- (2) By simultaneous attack throughout the breadth and depth of the enemy structure, to paralyze the system;
- (3) By “turning over” the enemy – that is massing a critical maneuver force beyond the depth of his own center of mass, thus rendering his tactical dispositions irrelevant; and
- (4) By creating and exploiting a center of gravity.<sup>68</sup>

Since Naveh wrote his study as an examination and comparison of Soviet inter-war, and contemporary American operational thought, it is not surprising that his systems framework accurately reflects both. However, there are also strong parallels with Schneider’s study of the US Civil war. Naveh’s horizontal and vertical framework, which entails both frontal holding and deep strike actions, is consistent with Schneider’s deep-distributed, simultaneous and sequential operations. Likewise, Schneider’s distributed-free maneuver is essentially the same as Naveh’s operational maneuver in both form and purpose: both seek to defeat the enemy by disrupting his ability to achieve his aim, rather than by physically destroying him. So although Schneider refers to the adversary’s freedom of action, as opposed to his system structure, the defeat mechanism in both cases is the same: operational shock in depth.

Naveh was obviously also writing in the context of large armies and theaters. However, by defining the operational domain and functions in terms of a systems framework, rather than descriptive, empirical characteristics, Naveh’s systems approach provides a better basis for considering operational art outside its normal context. In this regard, Naveh does offer specific warning against the “myth of quality” – the idea that increased quality in terms of the types of elements (species) in the system, and in the synergetic effects of improved interactions between the elements (substance), can offset a significant numerical disadvantage, even to the point of

---

<sup>68</sup> Ibid., 17-19. The Soviet conception of a center of gravity is not the same as the Clausewitzian concept adopted in current doctrine. It actually consists of three elements: the identification of points of strength and weakness in the enemy system; the deliberate creation (and concealment) of vulnerabilities in it; and the exploitation of these vulnerabilities through maneuver strikes. This is an elaborate process involving forethought, shaping, deception, and then a calculated action to create the greatest possible psychological and physical effect – inducing operational shock.

making numbers (mass) irrelevant.<sup>69</sup> Quantity really does have a quality all its own: mass is essential both for building depth, and for conducting effective frontal (horizontal and normally attritional) holding actions, which along with maneuver, are an integral part of every operation.<sup>70</sup> In one sense, this is the systems representation of the small-army idea against which Triandafilov and Tukhachevski voiced concerns, and which “manoeuvrists,” continue to promote.<sup>71</sup> One could even argue that the quality myth is being demonstrated today in the US military – a large force by any standard – whose reliance on lethality over numbers has left it with insufficient mass and depth to conduct the “horizontal” holding operations that have dominated post-combat Iraq and Afghanistan.

## The Essence of Operational Art

Synchronization expresses the essence of the operational art and as such it reflects both the rare ability to think and act simultaneously at two different categories of time, and the unique apprehension of the antithetical nature of the systemic environment.<sup>72</sup>

The essence, or heart of operational art has been described most simply as “translating strategic objectives into tactical missions.”<sup>73</sup> Dr Schneider elaborates that the hallmark of operational art is the “integration of temporally and spatially distributed operations into one coherent whole” at the heart of which are simultaneous and sequential operations.<sup>74</sup> Defined by distributed maneuver and deep battle, its essence and dominant characteristic is distributed free maneuver.<sup>75</sup> These dialectic themes of translation and integration, simultaneity and sequence, distribution and depth, and maneuver and battle, run as a continuous thread through the emergence and development of operational theory. In general they seem to reflect three

---

<sup>69</sup> Ibid., 7.

<sup>70</sup> Ibid., 23. Naveh specifically talks about attrition; however, in considering potential low-intensity environments, it is possible that the horizontal holding or fixing function would still require sizable forces, although actual attrition losses might be low.

<sup>71</sup> Hope, “Mars and Minerva”, 15-17,40-43.

<sup>72</sup> Naveh, *In Pursuit*, 310.

<sup>73</sup> Vego, NWC 1004: Operational Warfare, 26.

<sup>74</sup> Schneider, “Loose Marble,” 87.

<sup>75</sup> Schneider, “Theoretical Implications,” 22, Schneider, *Vulcan's Anvil*, 33.

interconnected processes – or facets – that appear to lie at the core of operational art: the linking of strategic intent and tactical action through operations; the arrangement of operations sequentially and in depth; and defeat through systemic disruption (operational shock). These in turn are dependent on three supporting concepts: the operation (vs. battle); depth (vs. a central or decisive point); and the system (vs. mass).

The first facet involves fusing the incompatible domains of strategy and tactics, of ends with means. It entails transforming abstract, non-linear, end-focused – what one might call “existential” – strategic goals into discrete, linear, process-driven, tactical action, and then re-integrating the various tactical acts and outcomes into a coherent whole in order to achieve the strategic purpose. The first part of this process – transforming formless intent into a well-defined construct – is achieved through operational design. Operational design assigns intermediate operational objectives and sets the boundary conditions – i.e. establishes the “box” – that divides the problem into manageable chunks, bounded in space, time and purpose: operations.<sup>76</sup> The second part is accomplished by managing the dichotomous strategic-tactical relationship and the cognitive tension that will naturally exist between these two poles. Amongst other things, it must ensure that the separate operations and tactical elements never lose sight of the strategic aim, which is the overriding purpose for all activity, and it must continually reassess the validity of the operational framework – the box – that has been designed.<sup>77</sup>

Of central importance is that each manageable chunk – each operation – must be an autarkic entity. It must be self-contained, possessing its own internal logic (purpose) and the means to achieve it, independent of the other operations planned to occur simultaneously or sequentially with it. This “completeness,” “self-containedness,” or autarky is in fact the defining feature of the operation that distinguishes it from the tactical actions, of which it is composed, and

---

<sup>76</sup> Svechin, *Strategy*, 69. Operation in the specific sense as defined by the Soviet theorists. What Svechin calls the Operation most closely represents the “major operation” in US doctrine.

<sup>77</sup> Naveh, *In Pursuit*, 6-7. and Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge, MA: The MIT Press, 1998), 224.



the campaign, in which it is combined with other operations. Therefore, the selection of the intermediate operational goals, which define each operation, becomes the critical function in operational design, since it determines not only what each operation must achieve, but also how they will be combined to achieve strategic success. In this sense one could say that operational art is the use of operations for the purpose of strategy.<sup>78</sup>

The second facet concerns how operations are combined – how they are arranged simultaneously and sequentially, as part of a campaign to build, sustain and exploit depth. In practice, this campaign arrangement must be determined in parallel with the selection of the operations themselves. The most crucial, and difficult, aspect of this concept is understanding depth beyond its simple geographic sense – the spatial, temporal, material and moral dimensions of depth that form the “origin for both momentum and elasticity.”<sup>79</sup> Operational depth can be seen as that available space, time, resources and resolve that gives a force (military system) its robustness and resiliency to respond and react, thus permitting it to protect and pursue its aim. In essence, depth represents freedom to act.<sup>80</sup> It is also depth that prevents the quick decisive victory, and therefore demands successive operations. This in turn brings into play what Edward Luttwak called the “paradoxical logic of strategy,” present in all conflicts: when dealing with a thinking, adaptive adversary who is intent on thwarting your efforts, and who has the opportunity to react (has freedom of action), the effectiveness of any planned act is as dependent upon the adversary’s reaction as upon any intrinsic merits it might have. In other words, the most effective course of action may not be the most apparent or logical choice. A corollary to this is that no course of action can persist indefinitely – the longer it is pursued, the better the adversary’s

---

<sup>78</sup> Naveh, *In Pursuit*, 9-14. Also see Bradley J. Meyer, “The Operational Art: The Elder Moltke’s Campaign Plan for the Franco-Prussian War,” in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger, 1996), 44-45. Meyer describes Moltkean operational art as “the use of operations for the purposes of the campaign” and considers the selection of supporting operational goals as the crucial creative step in Moltke’s campaigns.

<sup>79</sup> Naveh, *In Pursuit*, 18,301. Naveh considers depth to express in territorial terms the entire scope of the operational function. Schneider, *Vulcan’s Anvil*, 21. Schneider considers depth of operational maneuver analogous to numbers (mass).

<sup>80</sup> Schneider, *Vulcan’s Anvil*, 33-35.

response, and hence the less effective it will be, eventually culminating. Thus the culminating point of victory can be understood not only in terms of mechanical overextension, but also in terms of the adversary's adaptation. Perhaps the most compelling rationale for limiting the scope of intermediate operational objectives is therefore to forestall culmination, just as the Soviets learned in 1943-44 to limit their objectives and follow successful offensives with deliberate pauses, rather than opportunistic pursuit.<sup>81</sup>

A second issue stemming from this paradoxical logic is that the actual outcome of actions – the resultant operating environment – is indeterminate. Therefore, the subsequent operations actually required may differ greatly from those envisioned at the outset of the campaign. Intermediate objectives chosen solely in terms of how well they support anticipated follow-on operations, or simply as incremental, partial-steps towards the overall campaign goal can prove futile if the situation changes drastically. An alternative to this essentially linear approach is to select intermediate objectives not based on how directly they approach or support achieving the overall goal, but instead on the range of options that their attainment will confer.<sup>82</sup> In other words, intermediate (operational) objectives should be selected primarily to enhance freedom of action and build depth – or deny it to the adversary – and not merely to make incremental progress. Most importantly, operations selected this way have intrinsic merit, and will still be of value even if the overall campaign goal changes. Campaigns, then, should be built from successive, limited operations that not only combine to achieve the overall campaign objective, but which individually and collectively maximize depth and freedom of action.

However, a growing number of military theorists believe that the revolutionary technological changes in weaponry, sensors and command and control foretell the end of operational art. As early as the first Gulf War in 1991, Douglas Macgregor saw a broadening and

---

<sup>81</sup> Luttwak, *Strategy*, 15-24.

<sup>82</sup> Dietrich Dörner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*, trans. Rita and Robert Kimber (Cambridge, MA: Perseus Books, 1997; reprint, *Die Logic des Misslingens*. Germany: Rowholt Verlag GMBH, 1989), 53, and 59-62. Dörner calls this approach efficiency diversity, although it is sometimes referred to as option acceleration.

deepening of simultaneous, integrated effort – an extension of the individual operation into a single operation-campaign – that precipitated significant overlap or “interpenetration” of the levels of war. He predicted that ultimately the three levels of war, as “distinct loci of command and functional responsibilities” will merge, and tactics will be employed to directly achieve the strategic goal as part of a single, simultaneous action.<sup>83</sup> As Antulio Echevarria put it, “the ability to strike simultaneously throughout an ever-expanding battlespace has made sequential operations all but obsolete. This simultaneity will continue to blur the already tenuous distinctions among tactical, operational, and strategic levels of war.”<sup>84</sup> What they are advocating is essentially the re-establishment of the strategy-tactics paradigm, and the reinvention of the concentrated, decisive battle, in which technology effectively collapses what appear to be distributed operations to a virtual single point. Luttwak accounts for this possibility by suggesting that in circumstances where the enemy cannot react – for example if his depth and freedom of action have been defeated through surprise – then the paradoxical logic can be suspended, and the enemy treated as an inanimate object, or “target array.”<sup>85</sup> However, recent operational experience would suggest that potential adversaries will always find some form of depth – some source of strength that will help them maintain freedom of action, even if only morally, regardless of the odds facing them. One could even argue that the overwhelming physical strength of the US military has driven potential adversaries to develop depth in dimensions not vulnerable to US strengths – religious resolve, complex terrain, etc. – thus retaining freedom of action. Correspondingly, the so-called asymmetric threats can be seen as efforts by adversaries to dislocate the inherent strengths of US military structure, thus denying depth and freedom of action. The current status of Phase IV operations in Iraq would suggest that the concept of successive operations and operational art are thus still relevant.

---

<sup>83</sup> Douglas A. Macgregor, "Future Battle: The Merging Levels of War," *Parameters* 22, no. 4 (1992): 40-45.

<sup>84</sup> Antulio J. II Echevarria, "Dynamic Inter-Dimensionality: A Revolution in Military Theory," *Joint Force Quarterly* 15 (1997): 30.

<sup>85</sup> Luttwak, *Strategy*, 8.

The final aspect is the operational defeat mechanism – systemic disruption or operational shock. It is predicated on an acceptance of the systems view of military organizations and activity. It is also based on an understanding that the adversarial nature of conflict, as a contest between two opposing aims and wills, endows the aim with a dual nature: achieving one's own objective (positive) and denying the adversary his objective (negative). This is essentially Naveh's framework for operational maneuver. The main thrust, summarized from the earlier discussion, is as follows: the aim provides the central logic to the military system; it is the "cognitive glue" that holds the system together and gives it purpose. Therefore, removing either the aim itself, or the system's ability to achieve it, contradicts the system's logic and rationale, inducing "operational shock." The best way to render the opposing system incapable of achieving its aim is through actions to disrupt it's deep hierarchical structure – in other words through operational maneuver.<sup>86</sup> Maneuver and disruption in depth – be it spatial, temporal, material, or moral – removes an adversary's options, denies him freedom of action, and induces shock or culmination.

## Operational Art Out of Context

"In spite of the fact that one could, through the exercise of definitions such as campaign, operation and theatre, link the new quality to quantitative aspects of space and force size, its application, as a principle, is not confined to a specific echelon."<sup>87</sup>

The association of the operational level (function) with a unified combatant command or subordinate JTF makes perfect sense from a US perspective, within a global framework of geographic, theater-strategic, unified commands. The theater or Joint Operational Area (JOA) is close enough to the tactical actions to have a feel for the imperatives being faced at that level, and to assess first-hand the actual conditions and results of operations. This feel for the tactical context,

---

<sup>86</sup> Recall that operational maneuver was earlier defined as relational movement in depth that maximizes freedom of action for the destruction of the adversary's capability to achieve his aim. From Schneider, *Vulcan's Anvil*, 34.

<sup>87</sup> Naveh, *In Pursuit*, 307.

and the mechanics of the operation, is essential for the operational commander to constantly reassess the validity of the operational framework. Too distant a relationship from the tactical – and by extension too close a one to the strategic – will impede this critical function.<sup>88</sup> Yet it must still be directly connected to the theater-strategic, or national-strategic level, in order to manage the cognitive tension between the two. The theatre or JTF level is also generally considered self-contained and independent in purpose and action from other theaters or operational areas. Outside the theater-strategic context, the operational level must still exhibit these main attributes: intimate with the tactical level to constantly reassess the operational design's validity; directly connected to the strategic level to bridge the dichotomous gap; and concerned with self-contained (autarkic) operations and their incorporation into campaigns.

Likewise, the association of operational art exclusively with war, or high-intensity conflict, is unnecessarily restrictive. First of all, it does not reflect the current doctrinal framework of a continuous spectrum of conflict, in which war-like and non-war operations may become intermingled and at times indistinguishable.<sup>89</sup> Secondly, although the operational art may be of questionable relevance to permissive operations such as classical peacekeeping or disaster relief, it is not the size or intensity that determines this, but the absence of an adversarial relationship. Operational art is fundamentally about conflict, which only (and always) exists where there is a clash of wills and aims. Therefore, regardless of intensity, the potential for operational art exists in all operations involving an adversary, adversaries, or competitors whose will must be bent and aim must be defeated in order to achieve our own ends.

Finally, despite Naveh's encouraging tone, we have already seen that the operational level – particularly operational maneuver – cannot be considered completely independent of quantity/mass. Regardless the quality of the forces or the degree of synergy achieved through their interactions, a certain scale of forces will be required to fulfill the necessary attritional or

---

<sup>88</sup> Meyer, "Moltke's Campaign Plan," 29.

<sup>89</sup> United States, *FM 3-0*, 1-14 – 1-16. and Canada, *CFP 300: Canada's Army*, 73-75.

holding role, and to provide the depth that is essential to preserving and exploiting freedom of action. It must be large enough to avoid decisive engagement in one operation, to engage the adversary tactically (frontally) while simultaneously exploiting his depth (physical or otherwise), and to contemplate and generate successive operations. What size of force is required, in absolute terms, can only be determined in relation to the adversary, but it is no recipe for a small force to defeat a larger adversary, through tactical maneuver. Operational maneuver concepts such as depth and synchronization are only relevant if the maneuver can challenge the opposing system's entire logic. Attempts to apply "scaled-down" operational concepts to tactical actions are doomed to fail, since the system will retain its coherence and the tactical imperatives of battle – mass, attrition, and destruction – will continue to dominate.<sup>90</sup>

It would appear, therefore, that while operational art cannot exist completely independent of context, neither are there any absolute limits on the size of force, scale of operation, intensity of conflict, or echelon of command that would confine its applicability to the familiar "great-power" context. Naveh proposed a comprehensive set of nine criteria to determine whether an organization, concept, plan or act could be considered operational:

- (1) It must reflect cognitive tension between the strategic aim and tactical missions;
- (2) It must involve industrious [operational] maneuver;
- (3) It should be synergetic, or constitutive;
- (4) It should aim at the disruption of the opponent's system;
- (5) It must be tolerant of randomness or chaos in system interactions;
- (6) It should be non-linear, expressing a deep, hierarchical structure;
- (7) It must reflect a deliberate interaction between attrition [or holding] and maneuver;
- (8) It must constitute an independent, autarkic entity within the scope of its aim; and
- (9) Any operational concept or plan must be related to a broad and universal theory.<sup>91</sup>

---

<sup>90</sup> Naveh, *In Pursuit*, 23 and 301-310.

<sup>91</sup> *Ibid.*, 13-14.

For our purposes this can be reduced to the three essential facets of operational art derived earlier. Therefore to be operational an organization or act must:

- (1) Effectively link strategic aims with tactical action through the design and use of self-contained (autarkic) operations;
- (2) Arrange and synchronize operations sequentially and simultaneously to generate, preserve, exploit, and deny operational depth and freedom of action. This requires a certain, but not fixed, scale of forces; and
- (3) Be adversarial in nature, and focused on defeating the opposing system's logic by rendering its aim untenable or disrupting its structure sufficiently to induce operational shock.

This means, at least theoretically, that even a militarily weak middle-power such as Canada can effectively implement an operational level construct and employ operational art, provided these essential facets are respected. What we must now determine is an appropriate middle-power context within which the operational level and art can be re-framed. This will require an examination of if and how they have been manifested in a Canadian strategic and historical context.

### **III. THE CANADIAN EXPERIENCE**

#### **Strategic Context – Life as a Middle-Power**

Canada is the perhaps the prototypical middle power – a stable, socially progressive, technologically advanced, western, liberal democracy, with worldwide interests and influence that belie its relatively small population and limited hard power. In typical middle-power fashion it pursues collective security through alliances and international organizations, and favors the empowerment of international regulating bodies<sup>92</sup> Yet, Canada's real strategic situation has been determined largely by unique geographic and historical factors that are not common to other middle powers. Her vast size, small population, and protected location alongside the dominant

---

<sup>92</sup> Ronald M. Behringer, "Middle Power Leadership on Human Security," in *Annual Meeting of the Canadian Political Science Associations* (Halifax, NS: Department of Political Science, University of Florida, 2003). Middle-powers tend to take a multi-lateral approach to international disputes, attempting to resolve problems through compromise and cooperation.

world power on the North American “island continent” have rendered Canada simultaneously “indefensible and unassailable.”<sup>93</sup> Homeland defense has therefore always depended upon allied support – initially British, more recently American. In addition, Canada’s immense natural wealth bestows great economic potential that is heavily reliant on foreign trade and access to markets. Therefore Canada has long recognized that her security and prosperity depended upon broader international stability. With homeland defence assured, Canadian effort has traditionally gone into forward security, to tackle violent threats as far from North America as possible and protect Canadian interests abroad. The Canadian military – and in particular the army – has therefore almost always had an expeditionary focus.<sup>94</sup>

Since the end of the Second World War (WW II), the close relationship between Canada and the United States (US) has undoubtedly become *the* overriding factor in Canadian strategy. While American power underwrites the physical security of North America, the US – more than 10 times greater in population and GDP – dominates Canada materially, economically, culturally, and psychologically. Overwhelming US power also serves to marginalize Canada’s role as a regional player, in contrast with the strong regional influence exerted by most other middle-powers. The uniqueness of Canada’s proximity to, and relationship with, the US makes it impossible to extrapolate the strategic and operational challenges facing Canada, even to nations as similar as Australia, which unlike Canada has always maintained an explicit requirement for unilateral defence, and wields considerable regional clout.<sup>95</sup> Canada’s two strategic imperatives – homeland defence and forward security – can therefore be seen through the dynamic of this relationship: homeland defence to “keep the US out,” and forward security to “keep Canada in.”

---

<sup>93</sup> Richard Gimblett, "The Canadian Way of War: Experience and Principles," in *Centre for Foreign Policy Studies Seapower Conference* (Dalhousie University, Halifax: 2002), 1.

<sup>94</sup> Sean M. Maloney, "The Canadian Tao of Conflict," in *Forging a Nation: Perspectives on the Canadian Military Experience*, ed. Bernd Horn (St. Catharines, ON: Vanwell Publishing, 2002), 275-276. Also see Gimblett, "The Canadian Way of War: Experience and Principles," 4-5.

<sup>95</sup> John C. Blaxland, "The Armies of Canada and Australia: Closer Collaboration?," *Canadian Military Journal* 3, no. 3 (2002). Blaxland outlines a remarkable degree of similarity between Australia and Canada, particularly in their military heritages and structures.



That is to say, Canada must contribute enough to defending the Canadian approaches to North America that the US does not feel obliged to do it unilaterally, and participate adequately in international security arrangements to retain strategic influence within those forums. And while preferring to deal bilaterally with the US regarding North American defence, Canada has tended to favor broad-based coalitions and international organizations such as NATO and the UN in the international arena, primarily to counter-balance the overwhelming dominance of the US on homeland defence matters.<sup>96</sup>

### **Military Context – Life as a Junior Partner**

As a result, Canada has maintained three consistent military-strategic traditions or patterns: a preference for coalition warfare and capability-based planning; habitual unpreparedness and frugality; and a counteracting desire for saliency and operational influence. Since Canada cannot achieve even homeland security unassisted, it is not surprising that almost all military activity beyond domestic operations is seen exclusively within a coalition context. Furthermore, given her relatively small population and military manpower potential, Canada's strategic objective in any coalition or alliance has always been to participate sufficiently to maintain strategic influence as a junior, preferably equal, partner.<sup>97</sup> Canadian Army doctrine explicitly favors a supporting, contributory role, and deliberately shies away from lead-nation status. This self-deprecating stance has absolved the Canadian strategic leadership of the need to develop independent strategies and force structures to defeat anticipated threats (threat-based), or to achieve specific strategic goals (mission-based), in favor of a "capability-based" strategy which defines the employment of military forces in terms of making strategically relevant contributions to the overall allied effort, from within the capabilities available at the time. On the plus side, this approach has freed the Canadian Army from the specific requirements of a known

---

<sup>96</sup> Gimblett, "The Canadian Way of War: Experience and Principles," 6-7.

<sup>97</sup> Maloney, "Tao of Conflict," 276-283. Also see Canada, *CFP 300: Canada's Army*, 117. and Canada, *Future Force*, 161.

threat, role, or mission. Thus, despite its modest size, it remains structured, equipped and trained as a medium-weight, general-purpose force, suitable for employment across the spectrum of conflict and continuum of operations.<sup>98</sup>

On the negative side, however, this capability-based approach places the military capability in a vacuum, isolated from any strategic context. In this situation, the military tends to become “tactically focused” to the exclusion of operational or strategic considerations, and the national-strategic level, unconcerned with military-strategic matters (which are left to the alliance or coalition lead-nation), tends to exclude the military from strategic decision-making, including when and where to commit military forces.<sup>99</sup> This polarization of the military and political leadership at either end of the tactical-strategic dichotomy is perhaps the single greatest impediment to operational thinking in the Canadian Forces since, as Naveh states, “the formulation of the introductory aim virtually dictates the need for a dialogue at the highest level between the politicians and soldiers.”<sup>100</sup> In Canada, the dialogue does not take place, because the national-strategic leaders have no military-strategic objective, beyond the diplomatic influence to be gained by contributing a suitable force. In this context, the contribution can come to be seen as an end in itself – the price of admission to the alliance table.<sup>101</sup> Taken to the extreme, anything the contributed forces actually accomplish becomes irrelevant, as long as they appear credible enough to continue justifying the strategic influence they “buy”, and they are not abused by coalition commanders. Furthermore, since the forces are not actually expected to accomplish

---

<sup>98</sup> Bowes, Capstone Operating Concept, 14, Canada, CFP 300: Canada's Army, 115.

<sup>99</sup> This trend, well established in the Second World War, persists today as governments continue to make policy decisions that affect the military – up to and including committing military forces – either without or contrary to military advice. Most notably in the Second World War, the Canadian Government, mistrustful of the military, excluded senior officers from policy formulation. Ironically, the Canadian Government itself was excluded from allied strategic decision-making, so the Canadian military, which did in fact exert operational influence in the field, ended up having greater strategic impact than the government that sought to marginalize it. Simon Massey, *Operation Assurance: The Greatest Intervention that Never Happened* (15 Feb 1998, accessed 14 Dec 2003); available from <http://www-jha.sps.cam.ac.uk/a/a533.htm>, B.J.C. McKercher, "The Canadian Way of War: 1939-1945," in *Forging a Nation: Perspectives on the Canadian Military Experience*, ed. Bernd Horn (St. Catharines, ON: Vanwell Publishing, 2002), 126, 130-132.

<sup>100</sup> Naveh, *In Pursuit*, 15.

<sup>101</sup> Gimblett, "The Canadian Way of War: Experience and Principles," 4.

anything, it makes no sense to provide them anything but the bare minimum of resources, or to maintain them at anything but the lowest level of capability. Thus, much of Canada's military experience has also been characterized by thrift and a lack of preparedness. Throughout much of the latter cold-war period, Canadian political and senior military leaders descended into just such tokenism – making the smallest possible contribution to satisfy defence commitments, at the lowest possible cost, all without regard to actual effectiveness.<sup>102</sup>

However, in time of conflict, Canada's desire to exert strategic influence and to safeguard the treatment of her troops has prompted the commitment of sufficient forces to be salient – that is, to be a significant enough part of the overall effort to warrant treatment as a partner, not merely a contributor, and to be capable of operating as a united formation, conducting independent missions. Canadian Army doctrine continues to recognize that in order to prevent sub-units from being broken up, and to ensure Canadian troops always operate within an identifiable and coherent national structure, requires that any contributed force be capable of conducting independent and self-contained operations. Moreover, as Canadian commanders discovered during major conflicts, such salient forces – even purely tactical ones – are often in a position to exert an operational influence that greatly exceeds their nominal level.<sup>103</sup>

## **Historical Context – The Canadian Experience of War**

If operational art is a way of thinking about war in universal terms – conceptions plucked out of the ether – it is not inconceivable that its insights lurked in the minds of Canadian generals – Currie, McNaughton, Crerar, Simonds, Burns, to take the most senior.<sup>104</sup>

The practice or existence of operational art does not depend upon awareness of its existence, let alone its explicit inclusion in doctrine. The interwar Soviet theorists, along with their more contemporary Anglo-American counterparts, uncovered rather than invented the

---

<sup>102</sup> Maloney, "Tao of Conflict," 282. This could also help explain Canada's increasing aversion to risk: if there is nothing to accomplish, then there is no justification for risking or suffering casualties.

<sup>103</sup> Ibid., 277-280. And Canada, *CFP 300: Canada's Army*, 116.

<sup>104</sup> McAndrew, "Operational Art and the Canadian Army's Way of War," 88.

operational art.<sup>105</sup> It has been similarly suggested that a form of operational art can be gleaned from an examination of the Canadian historical experience of war, contrary to the contemporary view that the Canadian Army has never had the need or opportunity to practice it.<sup>106</sup>

## The Canadian Corps in The Great War

It might seem excessive to go back more than 80 years to examine a war that is largely believed to have been devoid of any operational art. However, the First World War (WW I) was the defining moment for the Canadian Army, and in some ways for the nation itself, in much the same way that the US Civil War defined the US Army and nation. Entering the war little more than a semi-independent dominion of the British Empire, Canada emerged an autonomous state, with an equal voice at Versailles. This move up in the world had not come cheaply: a nation of less than 8 million, Canada had put 619,000 men under arms in the war, and suffered more than 230,000 casualties – 60,000 fatal.<sup>107</sup> The Canadian Army experience in WW I also established the pattern that would be repeated in later allied and coalition efforts: Canada, while remaining a junior partner, would contribute a credible, autonomous force that had *saliency*. This, saliency, in turn, put the senior Canadian commander in a position to exert *operational influence* beyond his nominal position.

---

<sup>105</sup> Edward N. Luttwak, "The Operational Level of War," *International Security* 5, no. 3 (1980): 62. for example, recognized the existence or practice of operational art before it was understood as such, in particular during World War II, which he described as the "trade secrets" of great men such as Patton, McArthur and O'Connor.

<sup>106</sup> Coombs, "Perspectives of Operational Thought," 33-34. John A. English, "The Operational Art: Developments in the Theories of War," in *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy (Westport, CT: Praeger, 1996), 20. McAndrew, "Operational Art and the Canadian Army's Way of War," 90.

<sup>107</sup> John A. English, *Lament for an Army: The Decline of Canadian Military Professionalism*, Contemporary Affairs Series (Concord, ON: Irwin Publishing, 1998), 14. and Desmond Morton and J.L. Granatstein, *Marching to Armageddon: Canadians and the Great War 1914-1919* (Toronto, ON: Lester and Orpen Dennys, 1989), 279. Canadian losses in the Great War were proportionally similar to American losses in the US Civil War.

Although, the Battle of Vimy Ridge in April 1917 “has achieved a status as *the* Canadian victory, the pinnacle of Canadian military achievement,”<sup>108</sup> the Canadian Corps’ greatest triumph and most important contribution was actually the 100 Days from 8 August to 11 November 1918. By the summer of 1918, the Canadian and Australian Corps were considered by most British officers to be the best troops in the British Expeditionary Force (BEF).<sup>109</sup> This tactical and organizational superiority derived, in no small part, from their privileged positions as semi-autonomous national armies. The Canadian Corps, with permanently assigned divisions, a preponderance of supporting arms, an un-touchable source of manpower, and its own schools and doctrine, was able to develop a degree stability, homogeneity and operational coherence that was simply beyond any regular British corps. It also had in Sir Arthur Currie a competent, imaginative commander, who encouraged innovation and initiative in his subordinates. The Corps had spent much of that summer re-training for mobile, offensive warfare, and with the fighting power and resilience of a small BEF army, it truly was the “Shock Army of the British Empire.”<sup>110</sup> For Field Marshall Haig, facing a severe manpower shortage and declining morale in Great Britain, “the Canadian Corps was an ideal *tactical* tool with which to pursue *operational* plans without jeopardizing personal *political* considerations.”<sup>111</sup> Accordingly, the Canadian (and Australian) Corps formed the spearhead for the British offensive at Amiens on 8 August 1918 – the black day of the German Army.

---

<sup>108</sup> J.L. Granatstein, *Canada's Army: Waging War and Keeping the Peace* (Toronto: University of Toronto Press, 2002), 111.

<sup>109</sup> John A. English, *The Canadian Army in the Normandy Campaign: A Study of Failure in High Command* (New York: Praeger Press, 1991), 17-19. English notes that while the Australians and Canadians were very similar in effectiveness, their methods were very different: the Canadians as masters of the set-piece attack – an artillery-dominated, centrally controlled, methodical imposition of order onto the battlefield – whereas the Australian method of “peaceful penetration” perfected infiltration tactics.

<sup>110</sup> *Ibid.*, 16-18, Shane B. Schreiber, *Shock Army of the British Empire: the Canadian Corps in the last 100 days of the Great War*, Praeger Series in War Studies, ed. John A. English (Westport, CT: Praeger, 1997), 140. The Canadian Corps certainly met Triandafillov’s condition that the “Shock Army” be “capable with its own forces of conducting a series of successive operations from start to finish. It must have the resources that will allow it to surmount any enemy resistance, both at the outset and during operations.” Triandafillov, *The Nature of the Operations of Modern Armies*, 90.

<sup>111</sup> Schreiber, *Shock Army*, 56. Emphasis in original.

Currie's greatest moment, however, came three days later when in spite of the phenomenal success achieved so far, and in the face of demands by Marshall Foch to continue the attack, he balked, and instead recommended pulling the Canadian Corps out of Amiens to mount a new attack in the Arras sector. In convincing Haig to change the entire operational plan, Currie exerted an operational influence that "had an effect on the operations of the entire Western Front, and was out of all proportion to what other Corps commanders could achieve."<sup>112</sup> Currie then planned and launched a series of successive actions starting on 26 August from Arras through the Drocourt-Quéant (DQ) Line, the Canal du Nord, Cambrai, Mont Houy and Valenciennes, finally entering Mons on 11 November. In particular, the breaking of the DQ Line on 2 September effectively turned the flank of the Hindenberg defences, dislocating German front line forces and triggering a withdrawal of 6 armies, which surrendered all territory gained in the spring offensives. This was an operational success that Currie justly considered to be the Corps' greatest achievement. Throughout the remainder of the campaign, Currie – a mere corps commander – essentially dictated the main British operational thrust.<sup>113</sup>

Haig's faith in the Canadian Corps commander, and the operational freedom it afforded Currie, created the strange situation of an Army commander having to surrender some of his authority to a subordinate, and Army's operations supporting those of a nominally subordinate formation. In essence this meant that First Army's task was to support the Canadian Corps attack from the D-Q Line to Cambrai. This left Horne in the difficult position of ostensibly commanding Currie, yet often forced to acquiesce to his subordinates' (sic) demands because of Currie's unique position within the BEF, and Haig's personal belief in the Canadians."<sup>114</sup>

Moreover, Currie had come to grips with the problem of over-extending and outrunning artillery, logistics, and communications. Repeatedly judging the culmination point well, he imposed deliberate pauses and was thereby able to dictate the tempo of operations and maintain

---

<sup>112</sup> Ibid., 55.

<sup>113</sup> Ibid., 83.

<sup>114</sup> Ibid., 72.

momentum through what were, in essence, a series of successive operations in depth. For all intents and purposes, the Canadian Corps was practicing deep operational maneuver.<sup>115</sup>

## The First Canadian Army in Northwest Europe

There is considerable debate about whether allied commanders practiced operational art at all in the Northwest European theater. All pre-invasion planning seemed focused on the one vital task of making an amphibious landing. Once ashore, planning seemed to reflect a doctrine of improvisation – “an ongoing experiment in creative problem solving.” – rather than coherent campaigns aimed at well-defined operational objectives. Nevertheless, Montgomery showed some spark – and uncharacteristic flexibility – in coordinating the breakout attempts of 21<sup>st</sup> and 12<sup>th</sup> Army Groups. Together, Operations COBRA and SPRING were “as close as Montgomery ever came to matching the scope of Soviet operational art.”<sup>116</sup>

Once again, as in the Great War, we see a relatively small Canadian land force, put in a position of influence out of all proportion to its sheer numbers, and a Canadian leader thrust, despite his nominal junior status as a dominion corps commander (and one embedded within a separate Canadian Army at that) into a position of operational influence.<sup>117</sup> Guy Granville Simonds, merely a dominion corps commander in a theater with two army groups, was one of only two corps commanders to whom Montgomery entrusted “the opportunity and tools to

---

<sup>115</sup> Ibid., 92. Maneuver theorists will dispute this. Each operation was built around a set-piece attack with limited exploitation, and a deliberate pause. No single attack achieved operational depth, and there was limited opportunity for free maneuver. However, Currie does achieve operational depth through successive operations that, like a hurry-up running offensive in football, still managed to keep the German defenders off-balance and denied them freedom of action. See also Ian M. Brown, “Not Glamorous, but Effective: The Canadian Corps and the Set-Piece Attack, 1917-1918,” *Journal of Military History* 58, no. 3 (1994). Brown argues that given the limited mobility and dependence on artillery of allied armies in 1918, the set-piece attack was actually more effective than maneuver on the Western Front.

<sup>116</sup> Jarymowycz, “Tragic Hero,” 116-117, Russell F. Weigley, “From the Normandy beaches to the Falaise-Argentan pocket,” *Military Review* 70, no. 9 (1990): 45-49. One could argue that Montgomery also displayed operational ability in earlier campaigns, such as El Alamein and the pursuit into Tunisia.

<sup>117</sup> For a variety of reasons, Montgomery had far more confidence in Simonds, who emulated him, than he did in Harry Crerar, who commanded 1<sup>st</sup> Canadian Army. Ironically, this time it was a Canadian army commander who was put in the awkward position of supporting rather than controlling the operations of a subordinate corps commander ostensibly under his command. See J.L. Granatstein, *The Generals: The Canadian Army's Senior Commanders in the Second World War* (Toronto, ON: Stoddart, 1993), 108-113, 162-163.

elevate a tactical victory to a strategic triumph.”<sup>118</sup> In a series of three successive operations from 25 July to 14 August – SPRING, TOTALIZE and TRACTABLE – the 1<sup>st</sup> Canadian Army, and more specifically the 2<sup>nd</sup> Canadian Corps under Simonds, planned and executed 21<sup>st</sup> Army Group’s main effort in attempting first to break-out of the Caen sector, and eventually to close the Falaise Gap. Augmented by two additional armour divisions, supported by strategic heavy bombers, and given the benefit of ULTRA intelligence, these operations were clearly of more than local, tactical importance. SPRING, was planned in excruciating, pedantic detail, after the fashion of Simonds mentor Monty, leaving nothing to the initiative of any commander below corps. Intended as the 21<sup>st</sup> Army Group counterpart to Bradley’s Operation COBRA, it was an unmitigated disaster. It failed to either break through, “write down”, or even just to attract and hold Panzer forces near Caen, away from the COBRA thrust.<sup>119</sup> TOTALIZE, on 8 August, did achieve a breakthrough, but rigid adherence to inflexible strategic bombing timetables forced a pause that denied exploitation and gave the Germans time to react. Only the third attempt, Operation TRACTABLE launched on 14 Aug, would succeed and finally close the gap on 21 August.<sup>120</sup>

Too little, too late, Guy Simonds, the 2<sup>nd</sup> Canadian Corps, and the entire 1<sup>st</sup> Canadian Army, were relegated for the rest of the war to the unglamorous, plodding, side-show of clearing the channel ports, Scheldt Estuary and the lower Rhineland. The Canadian approach thereafter is perhaps best exemplified by Operation VERITABLE, conducted in February-March 1945. VERITABLE was the 1<sup>st</sup> Canadian Army’s largest operation of the war – in fact the largest operation ever commanded by a Canadian. It was a massive two-corps offensive involving 10 divisions, 3400 tanks, 1200 guns, and almost as many forces as landed at Normandy. Planned and coordinated in impeccable detail, and relying on massive firepower and cautious movement,

---

<sup>118</sup> Jarymowycz, "Tragic Hero," 107.

<sup>119</sup> Ibid., 118-122. Jarymowycz considers the fact that Simonds was the only allied corps commander to ever be granted direct access to ULTRA a clear indicator how central the Canadian operations were to Montgomery’s plans, and the degree of influence Simonds had with him.

<sup>120</sup> English, *Failure in High Command*, 297-300.



this classic set-piece attack has come to be regarded as the “epitome of the Canadian army’s way of war.” Yet despite all that planning, it was a spectacular failure, coming completely unhinged when the German Army – who could not help but know what was afoot – broke the dykes and flooded the entire area. Ironically, it was Canada’s Great War legacy of excellence in set-piece battle that lay at the root of the tactically focused, artillery-dominated, “staff-driven and top-down” nature of Canadian operations in Northwest Europe, and which continued to characterize Canadian Army thinking for decades: top-down direction, meticulous staff work, centralized control, and inflexible execution.<sup>121</sup>

Nevertheless, whatever the shortcomings in ability or performance, there was certainly no shortage of opportunity to exert operational influence. In both world wars the Canadian contribution was only a tactical element. However, ultimate responsibility outside the operational chain to the Canadian government and people conferred a certain degree of autonomy – a sort of military sovereignty – and imposed on the allied command the political constraint to employ the Canadian force as a coherent whole, under a Canadian commander. This, in turn, necessitated assigning it a self-contained – i.e. autarkic – role, within the overall campaign. Thus, although excluded from both national and allied strategic decision-making, its coherence as a significant discrete and homogenous national entity nevertheless afforded its commanders a greater role than that enjoyed by commanders at the same level from the lead nation, and put them in a position to exert operational influence.<sup>122</sup>

---

<sup>121</sup> McAndrew, “Operational Art and the Canadian Army’s Way of War,” 92-96. Also see Granatstein, *The Generals*, 264.

<sup>122</sup> This dual role – tactical responsibility to the alliance command structure, but strategic (national) responsibility to the home government – could also work against the junior-partner commander. Although historical research would appear to validate Montgomery’s assessment of General Harry Crerar’s performance in command of the 1<sup>st</sup> Canadian Army in Northwest Europe, it is nonetheless interesting that the genesis of his dissatisfaction with Crerar actually seems to date from the latter’s accession to de-facto national-commander in December 1941. Before this Montgomery generally praised Crerar and supported his advancement. Montgomery was particularly annoyed by Crerar’s nationalistic insistence on Canadian autonomy and warnings regarding the “implications of the British treating Canadian officers, particularly senior officers, and units as if they were British.” He did not seem to appreciate the domestic political imperatives that drove these military annoyances. See Granatstein, *The Generals*, 108-113. Also see English, *Failure in High Command*, 192-194. and Paul Douglas Dickson, “The Limits of Professionalism:

## Contemporary Context – Cold War to the Present

### A return to Saliency

Throughout the latter half of the Cold War from 1970-1990, the Canadian Army experience was primarily defined by classical UN peacekeeping operations and a small commitment to NATO defences in Germany. A typical UN peacekeeping mission was focused on maintaining the status quo while diplomats pursued a political solution. It restricted initiative and imposed rigid, centralized control over all decisions. NATO's robust command structure and pre-determined defence plans likewise demanded no more than a token Canadian commitment to signal political solidarity, and certainly did not encourage operational input. Consequently, the Canadian Army operated in an environment that restricted initiative and creativity, and encouraged commanders to think in purely tactical terms.<sup>123</sup> Saliency, and the operational influence that it generated, was traded in for a frugal policy that attempted to glean the greatest political benefit for the smallest possible cost. The Canadian Army was reduced to the minimum sustainable force that could meet its commitments, and then spread as thinly as possible to maximize strategic influence, at the expense of tactical effectiveness and operational relevance. The result was an Army (and entire Armed Force) that was physically and mentally unprepared to operate except as a junior coalition partner, and that certainly did not expect to have to do any of the real heavy lifting. Canadian policy and doctrine came to reflect this attitude, decrying the very idea that Canada would, or even could, act unilaterally or lead a multinational operation.<sup>124</sup>

However, by the early 1990s, Canada found herself involved in a different and more complex kind of peace support operation in the Balkans and Africa that required a more tactically robust and capable force package. These contributions had to be credible forces that could

---

General H.D.G. Crerar and the Canadian Army, 1914-1944" (PhD Dissertation, University of Guelph, 1993), 371-381.

<sup>123</sup> English, *Lament*, 57-60.

<sup>124</sup> Maloney, "Tao of Conflict," 282. and Sean M. Maloney, "Never Say Never: Non-Alliance Operations in the Canadian Context," *Army Doctrine and Training Bulletin* 2, no. 2 (1999): 29.

actually accomplish something beyond wave the flag. By the end of the decade, the nation that had prided itself on participating in every UN mission ever mounted, however minimally, was doing the unthinkable – reducing its commitments in order to concentrate forces in a single potent contribution to operations in Bosnia. The Canadian Military seemed to have rediscovered the value of saliency. This trend was confirmed when Canada declined the opportunity to contribute a company-group to the initial British-led ISAF in Afghanistan, instead contributing the originally offered battalion task force to the US-led combat operations, where it could function as a coherent whole.<sup>125</sup> The new doctrinal concept of the Tactical Self-Sufficient Unit (TSSU) reaffirms that for forces to be strategically relevant, their structure must permit them to make a significant contribution when deployed independently, or within the context of a coalition.<sup>126</sup>

### Challenging the Junior-Partner Paradigm

The real wake-up call, however, came in 1996 in the form of Operation ASSURANCE – the multinational operation to secure the safety of the approximately one million Rwandan refugees in eastern Zaire. Canada, which had volunteered to contribute a portion of the forces required, but ended up thrust into the role of lead nation for the mission, had not been the lead nation for the formation of a UN multinational force (MNF) since UNEF 1 in 1956, and had never led a Chapter 7 mission.<sup>127</sup> The Canadian military was, not surprisingly, mentally and physically unprepared to take on this task. The government and military both grossly underestimated the organizational and planning challenges involved, particularly in areas of

---

<sup>125</sup> United Kingdom, *Hansard Parliamentary Debates*, vol 377, part no 77, column 689-694 (10 Jan 2002, accessed 12 April 2004); available from <http://www.parliament.the-stationery-office.co.uk/pa/cm200102/cmhansrd/vo020110/debtext/20110-10.htm>.

<sup>126</sup> Canada, *Future Force*, 161.

<sup>127</sup> Massey, *Greatest Intervention* (accessed). Canada had expected the US to take the lead, but domestic issues and vivid memories of Somalia made it politically impossible for the US to become embroiled in another major African operation where vital US interests were not directly threatened. The colonial heritage and ongoing regional involvement of France, the UK, and most other European powers made them unacceptable to the African governments involved. Canada was impartial, bilingual, and highly trusted by the US, who promised to back the Canadian effort with strategic lift, logistics, and other support. The fact that the UN special envoy on the ground and calling for intervention was the Canadian Prime-Minister's nephew sealed the deal.

combat support and combat service support such as engineering, lift, logistics and communications. It was probably fortunate that the crisis resolved itself before the full MNF could be assembled and deployed. The Canadian Forces certainly saw the operation, dubbed the “bungle in the jungle” for the failure that it was, and put considerable effort into figuring out what went wrong.<sup>128</sup>

The After Action Reviews (AAR) that followed placed a clear focus on material, procedural, and Command and Control (C2) shortcomings, and provided the impetus to address glaring deficiencies in strategic communications and transportation capabilities. They also prompted a complete revision of the Joint Operational Planning Process (OPP), the linear-sequential nature of which proved to be unsuitable for the parallel-concurrent planning that actually occurred. The greatest shortcoming revealed in Op ASSURANCE, however, was not physical or procedural, but intellectual: the underlying doctrinal assumption and ingrained mindset that Canada would never have to do this – i.e. act unilaterally or as the lead nation. Canadian planners had come to believe that they did not have to concern themselves with operational design, but merely had to concentrate on generating force-package options to support someone else’s plans. Interestingly, the Canadian Government does not seem to share this preconception, but has instead demonstrated a fairly consistent propensity for committing military forces to the planning or execution of independent operations when national interests demanded it. In almost all cases, whether merely planned or actually executed, these unilateral operations were non-permissive, joint, and generally unforeseen by either the defence or foreign affairs departments.<sup>129</sup> It is surprising, therefore, that unlike the material and procedural shortcomings, the mental block against Canadian-led multinational or independent operations persists even today, and represents a significant disconnect between the government and military leadership.<sup>130</sup>

---

<sup>128</sup> Michael A. Hennessy, "Operation 'Assurance': Planning a Multi-National Force for Rwanda/Zaire," *Canadian Military Journal* 2, no. 1 (2001): 11,19. and Maloney, "Tao of Conflict," 283.

<sup>129</sup> Hennessy, "Operation Assurance," 18-19, Maloney, "Non-Alliance," 29-33.

<sup>130</sup> Garnett, "Canadian Approach," 8.

Just last year, the Canadian military fought strenuously against taking the lead-nation role for the International Security Assistance Force (ISAF) in Kabul, insisting it was beyond CF ability. In the end, the government, which appears to have doubted the military's self-assessment, simply disregarded it and imposed the mission on the Canadian Forces.

## **A Joint Operational Capability**

Perhaps the most significant outcome of the Op ASSURANCE AAR was the recognition of the need for an organization with expertise in planning and coordinating missions at the operational level. The result was the establishment of a standing, deployable, Joint Operations Group (JOG), consisting of an operational-level Joint headquarters (JHQ) along with the necessary supporting elements, to focus on the operational level aspects of Canadian missions.<sup>131</sup> It is, however, unclear whether either the new operational level staff or their strategic counterparts really understood the purpose and nature of the operational level and operational art. As a result Canadian doctrine and practice have tended to conflate the levels of conflict with levels of command, defining the operational level in terms of its intermediary position between (and separating) strategy and tactics rather than functionally in terms of how it integrates the two. This misconception is at the heart of an ongoing and substantial effort to clearly define the division of roles and responsibilities between the strategic and operational headquarters, a struggle which seems to dominate every CF operation.<sup>132</sup>

In pursuit of their desire for substantial autonomy, operational and tactical level commander's and staffs continue to push for a clear mission that they can execute without further strategic interference – the sort of linear-sequential process that was clearly discredited on Op

---

<sup>131</sup> Ibid.: 5-6.

<sup>132</sup> Gordon R. Peskett, "Levels of War: A New Canadian Model to Begin the 21st Century" (Monograph, Canadian Forces College, 2002), 21. In trying to resolve this problem, Peskett developed a graphical tool to illustrate the division of responsibilities as a function of the levels and spectrum of conflict, however it only serves to reinforce the identification of levels of war with levels of command, without giving any indication of why they are required, or how they relate to each other, except hierarchically. It does not address the different nature of the strategic, operational and tactical functions. Also see: Canada, *Lessons from Recent Operations*.

ASSURANCE.<sup>133</sup> In stark contrast, the strategic staff, which deals daily with the political dimension and inherently understands the impossibility of a clean strategic-operational handoff, seem to think that they can fulfill both the strategic and operational functions simultaneously from Ottawa.<sup>134</sup> Consequently, and equally telling, the ostensibly operational-level JOG ends up restricted to the mechanical aspects of force projection such as reception, staging, onward integration, force basing, and the national (administrative) command of deployed forces – which are the only aspects that the strategic level feels it can cleanly delegate. These are all essential enabling tasks, but they do not represent the central function of operational art, and should not be the main focus at the operational level.

This emphasis on clearly delineating authority and responsibility seems to miss the key point that the operational level is not about separation, but integration. The tension that this ambiguity causes between the levels is not a problem to be eliminated, but an essential aspect of the operational level that needs to be managed in order to keep tactical action and strategic intent harmonized. Therefore a deployed force that has effectively achieved autonomy from strategic influence cannot fulfill the integrating function of the operational level any more than the strategic HQ in Ottawa can simultaneously fulfill both strategic and operational roles. The former has deliberately divorced itself from the strategic context while the latter cannot possibly suppress its strategic imperatives sufficiently to adequately appreciate and champion the imperatives and concerns of the tactical level – both essential aspects of the operational level. It becomes clear that despite their small size, the Canadian Forces need to fully embrace the operational construct and establish a framework within which a separate operational level exists that truly fuses, as opposed to separating, the strategic and tactical levels.

---

<sup>133</sup> Hennessy, "Operation Assurance," 18-19.

<sup>134</sup> Canada, *Lessons from Recent Operations*. "De-centralized and delegated CF processes for command and planning conflict with the centralized practices more common in OGDs and the PCO; as a consequence NDHQ becomes the de facto Joint [operational] HQ." Also Garnett, "Canadian Approach," 8. suggests a separate operational staff but collocated at the strategic HQ.

## IV. CONCLUSIONS

*If a man will begin with certainties, he shall end in doubts; but if  
he will be content to begin with doubts, he shall end in  
certainties. – Sir Francis Bacon *The Advancement of Learning**

The Canadian Army's Capstone Doctrinal document, *Canada's Army*, warns that "an army which lacks relevant doctrine, or fails to practice it, will fail operationally."<sup>135</sup> Canada's current operational doctrine is framed in a great-power context of large-force, large-theatre, high-intensity operations that is out of touch with Canadian military realities, calling into question the validity of the entire operational construct for Canada or any other middle-power nation. This has served to perpetuate a strategic-tactical dichotomy in which the national-strategic level has used the commitment of token military forces as a tool to directly generate strategic influence, without regard to military objectives or effectiveness. The Canadian Forces, meanwhile, have retained an almost exclusively tactical focus, exacerbated in the Army by the misguided application of operational concepts in the tactical domain. Nominally operational level organizations and procedures have served to separate rather than integrate strategy and tactics, and have tended to concentrate on the mechanistic aspects of deployed operations. The result is a capability-based, junior-partner paradigm in which Canadian participation in operations is seen exclusively in terms of minor, supporting contributions, and the Canadian Forces do not play an operational role.

This brings us right back to our original question: are operational art and the operational level of conflict relevant for a middle-power like Canada? They are certainly feasible. As has already been demonstrated, the existence of operational art and the operational level does not depend upon the familiar grand scale of forces, area, or intensity with which it is normally associated. Furthermore, the Canadian military has already adopted the mechanistic aspects of an

---

<sup>135</sup>Canada, CFP 300: Canada's Army.

operational approach – the doctrine, procedures, and organizational structures. It need only start thinking operationally and recast the planning and execution of military action in keeping with the three essential aspects of operational art: effectively linking strategy and tactics through autarkic operations; synchronizing operations in space and time to generate, preserve, exploit, and deny depth and freedom of action; and focusing on defeating the adversarial aim through systemic dislocation and disruption (operational shock).

An operational approach is also suitable – not only useful, but necessary – in today’s complex operating environment. In the midst of the wide-ranging and protracted operations that comprise the global war on terrorism, there are few “simple” peacekeeping operations or standing, predictable, deterrent forces to which Canada can merely contribute. Stretched thin by the pace of operations, Canada’s leading allies, particularly the US, are less in need of small, plug-in, tactical or niche elements, than partners who can contribute coherent, self-sufficient forces capable of filling a major supporting role, or better yet who are willing and able take charge of a self-contained operation or campaign. The Canadian military is increasingly being placed in leading roles that it can adequately fulfill only if it is physically and intellectually prepared to conduct operational design and campaign planning in both a national and coalition context. Even when operating as a junior partner, history has shown that a relatively small, but coherent, national contribution can achieve a disproportionate degree of influence at the operational level if its leaders can transcend a purely tactical mindset and think operationally.

However, Canada’s current, capabilities-based force employment process is essentially unconcerned with objectives or end states, and therefore incompatible with operational art, which depends completely upon the aim. Canada needs to adopt a balanced approach that includes defining a coherent, achievable objective and end state, in addition to the current focus on limited resources and capabilities. Only then can operational art be used to determine how to achieve the aim within the resources allocated. This subsequent, operational role cannot be filled by the same



strategic staff that defines the aim; only the operational or tactical commander actually charged with achieving the mission can mold the aim and assigned forces into a coherent, self-contained, operational design. Furthermore, only the deployed commander, whether in a lead or junior-partner role, is in a position to exert operational influence within the allied or coalition military command structure. The operational level therefore must be distinct from the strategic level, must be empowered to carry out its operational role, and should preferably be combined with the deployed national-command role.

If there will be a sticking point in implementing a truly operational approach in the Canadian Forces, it will probably hinge on its political and military-strategic acceptability. As we have seen, implementing an operational approach requires a consistent emphasis on fielding and deploying salient and sustainable forces, as opposed to spreading out effort over a larger number of ineffective, token contributions. It also requires empowering deployed commanders by devolving a certain degree of authority and establishing a true strategic-operational dialogue with them – critical when acting as lead nation, but also required to exercise operational influence in a junior-partner context. Finally, it would require rejecting the purely capabilities-based force packaging doctrine for one that is also mission, or objective, oriented – focused on what has to be achieved. Although these changes are more intellectual than material, they run completely contrary to strongly held convictions and long-standing practices, and will face significant institutional resistance at both the political and military-strategic levels. Yet they are essential to overcoming the strategic-tactical dichotomy that still defines the Canadian Military. Canadian military and political leaders need to understand that in today's operating environment, token contributions are less likely to generate the strategic influence they did during the Cold War. Only robust, coherent and self-sustaining contributions will be salient enough to permit the development of operational influence, and by extension strategic influence. Just as the surest route to strategic success is not through direct, tactical action, but by building operational success,

the best way for Canada or other middle powers to gain and preserve strategic influence is not simply through tactical contributions, but by generating operational influence.

This monograph has shown that the application of an operational construct to a middle-power like Canada is feasible and suitable, if not completely acceptable. When distilled to its essence, operational art can be expressed in a manner applicable to Canada and other middle-powers. Moreover, the Canadian Forces already possess the doctrinal, organizational and procedural structures necessary to implement an operational framework. Historically, Canada has been able to leverage salient military contributions to achieve operational influence within alliances. Increased demands on the Canadian military to take more prominent roles in recent coalition operations have prompted a return to saliency, enhancing the usefulness and need for the operational level and operational art. Only the acceptability of operational art remains uncertain, and this is mainly due to institutional resistance to change. Once it is apparent to Canadian military and political leaders that in today's operating environment, token contributions are unlikely to generate the strategic influence they did during the Cold War, they should become more amenable to the operational approach.

## BIBLIOGRAPHY

### Works Cited

- Behringer, Ronald M. "Middle Power Leadership on Human Security." In *Annual Meeting of the Canadian Political Science Associations*. Halifax, NS: Department of Political Science, University of Florida, 2003.
- von Bertalanffy, Ludwig. *General System Theory*. Revised ed. New York, NY: George Braziller, 1968.
- Blaxland, John C. "The Armies of Canada and Australia: Closer Collaboration?" *Canadian Military Journal* 3, no. 3 (Autumn 2002): 45-54.
- Bowes, R.L. *Canadian Army of Tomorrow: Capstone Operating Concept*. Kingston, ON: Directorate of Army Doctrine, 2003. Draft.
- Brown, Ian M. "Not Glamorous, but Effective: The Canadian Corps and the Set-Piece Attack, 1917-1918." *Journal of Military History* 58, no. 3 (July 1994): 421-445.
- Canada, Department of National Defence. *B-GL-300-000/FP-000: Canada's Army: We Stand on Guard for Thee*, 1998.
- \_\_\_\_\_. *B-GL-300-001/FP-000: The Conduct of Land Operations - Operational Level Doctrine for the Canadian Army*. Vol. 1. 2 vols., 1998.
- \_\_\_\_\_. *B-GG-005-004/AF-000: Canadian Forces Operations*, 2000.
- \_\_\_\_\_. *B-GJ-005-500/FP-00: Canadian Forces Operational Planning Process*. Ottawa, ON: DND, 2002.
- \_\_\_\_\_. *Future Force: Concepts for Future Army Capabilities*. Kingston, ON: Directorate of Land Strategic Concepts, 2003.
- \_\_\_\_\_. *Strategic and Operational Level Lessons Learned from Recent Major Operations*. Ottawa, ON: DND, 2003. Issue Synopsis.
- Carlson, Kenneth G. "Operational Level or Operational Art?" *Military Review* 67, no. 10 (October 1987): 50-54.
- von Clausewitz, Carl. *On War*. Translated by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.
- Coombs, Howard G. "Perspectives of Operational Thought." unpublished draft, 2004.
- Dickson, Paul Douglas. "The Limits of Professionalism: General H.D.G. Crerar and the Canadian Army, 1914-1944." PhD Dissertation, University of Guelph, 1993.

- Dörner, Dietrich. *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*. Translated by Rita and Robert Kimber. Cambridge, MA: Perseus Books, 1997. Reprint, *Die Logic des Misslingens*. Germany: Rowholt Verlag GMBH, 1989.
- Dunn, Martin. "Levels of War, Just a Set of Labels?" *Research and Analysis: Newsletter of the Directorate of Army Research and Analysis*, no. 10 (10 October 1996).
- Echevarria, Antulio J. II. "Dynamic Inter-Dimensionality: A Revolution in Military Theory." *Joint Force Quarterly* 15 (Spring 1997): 29-36.
- Eddy, K.T. "The Canadian Forces and the Operational Level of War." *Canadian Defence Quarterly* 21, no. 5 (Spring 1992): 18-24.
- English, John A. *The Canadian Army in the Normandy Campaign: A Study of Failure in High Command*. New York: Praeger Press, 1991.
- \_\_\_\_\_. "The Operational Art: Developments in the Theories of War." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 7-27. Westport, CT: Praeger, 1996.
- \_\_\_\_\_. *Lament for an Army: The Decline of Canadian Military Professionalism*. Contemporary Affairs Series. Concord, ON: Irwin Publishing, 1998.
- Epstein, Robert M. *Napoleon's Last Victory: 1809 and the Emergence of Modern War*. Fort Leavenworth, KS: School of Advanced Military Studies, US Army Command and General Staff College, 1992.
- Garnett, G.L. "The Evolution of the Canadian Approach to Joint and Combined Operations at the Strategic and Operational Level." *Canadian Military Journal* 3, no. 4 (Winter 2002-03): 3-8.
- Gimblett, Richard. "The Canadian Way of War: Experience and Principles." In *Centre for Foreign Policy Studies Seapower Conference*. Dalhousie University, Halifax, 2002.
- Godefroy, Andrew B. *Returning to the Operational Art? The Canadian Forces Joint Operations Group*. 2002. Accessed 19 Sep 2003. Available from <http://www.cda-cdai.ca/symposia/2002/godefroy.htm>.
- Granatstein, J.L. *The Generals: The Canadian Army's Senior Commanders in the Second World War*. Toronto, ON: Stoddart, 1993.
- \_\_\_\_\_. *Canada's Army: Waging War and Keeping the Peace*. Toronto: University of Toronto Press, 2002.
- Hennessy, Michael A. "Operation 'Assurance': Planning a Multi-National Force for Rwanda/Zaire." *Canadian Military Journal* 2, no. 1 (Spring 2001): 11-20.
- Hope, Ian C. "Misunderstanding Mars and Minerva: The Canadian Army's Failure to Define an Operational Doctrine." Monograph, U.S. Army Command and General Staff College, 2000.

- Irwin, Ash. *The Levels of War, Operational Art, and Campaign Planning*. Camberly: Strategic and Combat Studies Institute, 1993.
- Jarymowycz, Roman J. "Doctrine for Canada's Army - Seduction by Foreign Dogma: Coming to Terms with Who We Are." *Army Doctrine and Training Bulletin* 2, no. 3 (August 1999): 48-51.
- . "General Guy Simonds: The Commander as Tragic Hero." In *Warrior Chiefs: Perspectives on Senior Canadian Military Leaders*, ed. Bernd Horn and Stephen Harris, 107-141. Toronto: Dundurn Press, 2001.
- Johnston, Paul. "The Myth of Manoeuvre Warfare: Attrition in Military History." In *The Changing Face of War*, ed. Allan D. English, 22-31. Kingston, ON: McGill-Queens' University Press, 1998.
- Johnston, Peter. *Military Assessment 2002*. Department of National Defence, 2002. Accessed 10 October 2003. Available from [http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/milassess/2002/intro\\_e.asp](http://www.vcds.forces.gc.ca/dgsp/pubs/rep-pub/dda/milassess/2002/intro_e.asp).
- Kipp, Jacob W. "Two Views of Warsaw: The Russian Civil War and Soviet Operational Art, 1920-1932." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 51-85. Westport, CT: Praeger, 1996.
- Klein, Gary. *Sources of Power: How People Make Decisions*. Cambridge, MA: The MIT Press, 1998.
- Leslie, Andrew. "Theatre Level Warfare: the Missing Link?" Canadian Forces College, 1999.
- Luttwak, Edward N. "The Operational Level of War." *International Security* 5, no. 3 (Winter 1980-81): 61-79.
- . *Strategy: The Logic of War and Peace*. Cambridge, MA: The Belknap Press of Harvard University, 1987.
- Macgregor, Douglas A. "Future Battle: The Merging Levels of War." *Parameters* 22, no. 4 (Winter 1992-93): 33-47.
- Maloney, Sean M. "Never Say Never: Non-Alliance Operations in the Canadian Context." *Army Doctrine and Training Bulletin* 2, no. 2 (May 1999): 29-34.
- . "The Canadian Tao of Conflict." In *Forging a Nation: Perspectives on the Canadian Military Experience*, ed. Bernd Horn, 271-285. St. Catherines, ON: Vanwell Publishing, 2002.
- Massey, Simon. *Operation Assurance: The Greatest Intervention that Never Happened*. 15 Feb 1998. Accessed 14 Dec 2003. Available from <http://www-jha.sps.cam.ac.uk/a/a533.htm>.
- McAndrew, William. "Operational Art and the Canadian Army's Way of War." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 87-102. Westport, CT: Praeger, 1996.

- McKercher, B.J.C. "The Canadian Way of War: 1939-1945." In *Forging a Nation: Perspectives on the Canadian Military Experience*, ed. Bernd Horn, 123-134. St. Catharines, ON: Vanwell Publishing, 2002.
- Menning, Bruce W. "Operational Art's Origins." *Military Review* 77, no. 5 (Sep-Oct 1997): 32-47.
- Meyer, Bradley J. "The Operational Art: The Elder Moltke's Campaign Plan for the Franco-Prussian War." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 29-49. Westport, CT: Praeger, 1996.
- Morton, Desmond, and J.L. Granatstein. *Marching to Armageddon: Canadians and the Great War 1914-1919*. Toronto, ON: Lester and Orpen Dennys, 1989.
- Naveh, Shimon. *In Pursuit of Excellence: The Evolution of Operational Theory*. The Cummings Center Series, ed. Gabriel Gorodetsky. Portland, OR: Frank Cass Publishers, 1997.
- Newell, Clayton R. *The Framework of Operational Warfare*. The Operational Level of War, ed. Michael Krause and Andrew Wheatcroft. New York: Routledge, 1991.
- Peskett, Gordon R. "Levels of War: A New Canadian Model to Begin the 21st Century." Monograph, Canadian Forces College, 2002.
- Schneider, James J. *Theoretical Paper No. 3: The Theory of Operational Art*. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1988.
- \_\_\_\_\_. "The Loose Marble - and the Origins of Operational Art." *Parameters* 19 (March 1989): 85-99.
- \_\_\_\_\_. "Theoretical Implications of Operational Art." *Military Review* 70, no. 9 (Sep 1990): 17-27.
- \_\_\_\_\_. *Theoretical Paper No. 4: Vulcan's Anvil: The American Civil War and the Emergence of Operational Art*. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1991.
- Schreiber, Shane B. *Shock Army of the British Empire: the Canadian Corps in the last 100 days of the Great War*. Praeger Series in War Studies, ed. John A. English. Westport, CT: Praeger, 1997.
- Simpkin, Richard. "Manoeuvre and the Small Army." *British Army Review*, no. 78 (Dec 1984): 5-6.
- \_\_\_\_\_. *Race to the Swift: Thoughts on Twenty-First Century Warfare*. London: Brassey's Defence Publishers, 1985.
- Svechin, Aleksandr A. *Strategy*. Translated by Kent D. Lee. Minneapolis, MN: East View Publications, 1992.

- Swain, Richard M. "Filling the Void: The Operational Art and the U.S. Army." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 147-172. Westport, CT: Praeger, 1996.
- Triandafilov, V.K. *The Nature of the Operations of Modern Armies*. Edited by Jacob W. Kipp. Translated by William A. Burhans. CASS Series on the Soviet Study of War, ed. David M. Glantz. Portland, OR: Frank Cass, 1994.
- United Kingdom. *Hansard Parliamentary Debates*. vol 377, part no 77, column 689-694. 10 Jan 2002. Accessed 12 April 2004. Available from <http://www.parliament.the-stationery-office.co.uk/pa/cm200102/cmhansrd/vo020110/debtext/20110-10.htm>.
- United States. *Army Field Manual (FM) 3-0: Operations*. Washington, DC: Department of the Army, 2001.
- \_\_\_\_\_. *Joint Publication (JP) 1-02: Department of Defense Dictionary of Military and Associated Terms*. United States Department of Defense, 2001. Accessed 10 December 2003. Available from <http://www.dtic.mil/doctrine/jpreferencepubs.htm>.
- \_\_\_\_\_. *Joint Publication (JP) 3-0: Doctrine for Joint Operations*. Washington, DC: United States Department of Defense, 2001.
- Vego, Milan. *NWC 1004: Operational Warfare*. Newport, RI: US Naval War College, 2000.
- Weigley, Russell F. "From the Normandy beaches to the Falaise-Argentan pocket." *Military Review* 70, no. 9 (September 1990): 45-64.

#### Works Consulted

- Allen, Ralph L. "Piercing the Veil of Operational Art." *Parameters* 25, no. 2 (Summer 1995): 111-119.
- Arbuckle, J.V. "Command and Control of Canadian Forces in Combined Operations." *Canadian Defence Quarterly* 25, no. 1 (Sep 1995): 17-21.
- Australia, Department of Defence. *Land Warfare Doctrine 1: The Fundamentals of Land Warfare*. Department of Defense, 2002. Accessed 15 Jan 2004. Available from <http://www.defence.gov.au/army/LWD1/index.htm>.
- Barnes, Christopher A. "Leveling the Hierarchy: Levels of War in the Information Age." Monograph, Naval War College, 1997.
- Canada, Commission of Inquiry into the Deployment of Canadian Forces to Somalia. *Dishonoured Legacy: The Lessons Learned of the Somalia Affair*. Ottawa: Minister of Public Works and Services Canada, 1997. Accessed 9 Sep 2003. Available from <http://www.forces.gc.ca/somalia/somaliae.htm>.
- Canada, Department of National Defence. *B-GL-300-003/FP-000: Command*. Ottawa, ON: DND, 1996.

- \_\_\_\_\_. *B-GL-300-002/FP-000: Land Force Tactical Doctrine*. Vol. 2. 2 vols., 1997.
- \_\_\_\_\_. *Operation ASSURANCE - Lessons Learned Staff Action Directive*. Ottawa, ON: NDHQ DCDS, 1998, 3452-12-8 (J3 Lessons Learned).
- \_\_\_\_\_. *Op ASSURANCE Lessons Learned Track 2 Special Task Force Group Report*. Ottawa, ON: NDHQ Director General Military Plans and Operations, 1999. Briefing Note for the Minister of National Defence.
- \_\_\_\_\_. *J3 Lessons Learned Questionnaire: Op TOUCAN Phase 1-3*. Ottawa, ON: DND, 2000.
- \_\_\_\_\_. *Future Army Capabilities*. Kingston: DLSC, 2001, DLSC Report 01/01.
- Capstick, M.D. *Canadian Land Force Doctrine for the Operational Art and Operational Level of War*. Ottawa, ON: Department of National Defence, 1990. Staff Paper, 1150-110/A24 (DLCD 6).
- Coombs, Howard G. "Canada's Army and the Concept of Maneuver Warfare: The Legacy of the Twentieth Century (1899-1998)." Monograph, U.S. Army Command and General Staff College, 2001.
- van Creveld, Martin L. *Command in War*. Cambridge, MA: Harvard University Press, 1985.
- \_\_\_\_\_. *The Transformation of War*. New York: The Free Press, 1991.
- Dahl, Erik J. "Network Centric Warfare and the Death of Operational Art." *Defense Studies* 2, no. 1 (Spring 2002): 1-24.
- Dewar, J.S. "The Impact of the Evolution of the Operational Level of War on the Structure of the Canadian Forces: a Sailor's Perspective." Monograph, Canadian Forces College, 1998.
- Duff, Paul A. "Joint Operations in Canada: Necessary or Merely Fashionable." Monograph, U.S. Army Command and General Staff College, 1999.
- Garneau, Louis. "OP ASSURANCE to Central Africa; a waste or worthwhile venture?" *Defence Matters*, Jan/Feb 1997. Accessed 14 Dec 2003. Available from <http://www.fas.org/man/dod-101/ops/docs/garneau.htm>.
- Glantz, David M. *Soviet Military Operational Art: In Pursuit of Deep Battle*. Portland, OR: Frank Cass, 1991.
- \_\_\_\_\_. "The Intellectual Dimension of Soviet (Russian) Operational Art." In *The Operational Art: Developments in the Theories of War*, ed. B.J.C. McKercher and Michael A. Hennessy, 125-146. Westport, CT: Praeger, 1996.
- Hand, Roger. "Overlord and Operational Art." *Military Review* 75, no. 3 (May-Jun 1995): 86-92.
- Harrison, Richard W. *The Russian Way of War: Operational Art, 1904-1940*. Modern War Studies, ed. Theodore A. Wilson, Raymond A. Callahan, J. Garry Clifford, Jacob W.



- Kipp, Allan R. Millet, Carol Reardon and Dennis Showalter. Lawrence, KS: University Press of Kansas, 2001.
- Jablonsky, David. "Strategy and the Operational Level of War: Part I." *Parameters* 17, no. 1 (Spring 1987): 65-76.
- Leonhard, Robert R. *The Art of Maneuver: Maneuver Warfare Theory and AirLand Battle*. Novato, CA: Presidio Press, 1991.
- Mackenzie, J.J.G., and Brian Holden Reid, eds. *The British Army and the Operational Level of War*. London: Tri-Service Press, 1989.
- McAndrew, William. "Operational Art and the Northwest European Theatre of War, 1944." *Canadian Defence Quarterly* 21, no. 3 (Dec 1991): 19-26.
- Meigs, Montgomery, C. "Operational Art in the New Century." *Parameters* 31, no. 1 (Spring 2001): 4-14.
- Nason, K.A. "Joint Operations in the Canadian Forces: A Meaningful and Timely Start." *Canadian Defence Quarterly* 24, no. 2 (Winter 1994): 6-9.
- Newell, Clayton R. "What is Operational Art?" *Military Review* 70, no. 9 (Sep 1990): 2-16.
- Newell, Clayton R., and Michael Krause, eds. *On Operational Art*. Washington, D.C.: Center of Military History United States Army, 1994.
- Operation Assurance / Phoenix Tusk*. GlobalSecurity.org, 24 Jun 2003. Accessed 14 Dec 2003. Web Page. Available from <http://www.globalsecurity.org/military/ops/assurance.htm>.
- Piatt, Walter E. "What is Operational Art?" Monograph, U.S. Army Command and General Staff College, 1999.
- Saint, Crosbie E. "A CINC's View of Operational Art." *Military Review* 70, no. 9 (Sep 1990): 65-78.
- Segal, Hugh. "A Grand Strategy for a Small Country." *Canadian Military Journal* 4, no. 3 (Autumn 2003): 3-6.
- Semianow. "Western Operational Theory: Breaking the Industrial Paradigm." Canadian Forces College, 1998.
- Swain, Richard M. "Written History of Operational Art." *Military Review* 70, no. 9 (Sep 1990): 100-106.
- Taylor, R.K. "2020 Vision: Canadian Forces Operational Level Doctrine." *Canadian Military Journal* 2, no. 3 (Autumn 2001): 35-42.
- United States. *Army Field Manual (FM) 100-5: Operations*. Washington, DC: Department of the Army, 1986.

\_\_\_\_\_. *Army Field Manual (FM) 100-5: Operations*. Washington, DC: Department of the Army, 1993.

\_\_\_\_\_. *Army Field Manual (FM) 100-7: Decisive Force: The Army in Theater Operations*. Washington, DC: Department of the Army, 1995.

Ward, David L. "Toward a Primer on Operational Art." Monograph, U.S. Army Command and General Staff College, 1999.